



Presented to the

Hartford Hospital School of Nursing

in memory of

Martha J. Wilkinson, Class of 1890

Hartford's first visiting nurse

by her friend

Edna L. Foley, Class of 1904

Presented to the

Hartford Hospital School of Nursing

in memory of

Martha J. Wilkinson, Class of 1890

Hartford's first visiting nurse

by her friend

Edna L. Foley, Class of 1904

Edna L. Foley

September 1916
Chicago

GENERAL NURSING



F287.43 L 96

RT
51
.L8
1914

GENERAL NURSING

BY

EVA C. E. LÜCKES

LADY OF GRACE OF THE ORDER OF THE HOSPITAL OF ST. JOHN
OF JERUSALEM IN ENGLAND
MATRON TO THE LONDON HOSPITAL
AUTHOR OF 'HOSPITAL SISTERS AND THEIR DUTIES'

NEW AND REVISED (NINTH) EDITION

NEW YORK
E. P. DUTTON AND COMPANY

1914

First printed, *June* 1884; reprinted, *August* 1887, *October* 1888, *October* 1892, *January* 1897; Second Edition (revised), *October* 1898; Third Edition, *September* 1899; reprinted, *October* 1900; Fourth Edition, *January* 1902; reprinted, *September* 1903; Fifth Edition, *January* 1905; reprinted, *November* 1905; Sixth Edition, *March* 1906; Seventh Edition, *June* 1908; Eighth Edition, *August* 1910; Ninth Edition (revised and reset), *April* 1914.

Dedicated

TO

VISCOUNT KNUTSFORD

CHAIRMAN OF THE LONDON HOSPITAL

IN PERSONAL AND GRATEFUL RECOGNITION OF HIS UNFAILING

INTEREST IN AND LABOURS FOR EVERYTHING

APPERTAINING TO THE WELFARE OF

NURSES

AND TO THE ADVANCEMENT OF

NURSING



INTRODUCTION

TO THE NINTH EDITION

THE Introduction to the Ninth Edition of 'General Nursing' consists simply of my grateful acknowledgments to those who have helped me to bring the technical information, conveyed in this little volume, thoroughly up to date.

Professor Leonard Hill, F.R.S., and Mr. R. A. Rowlands, M.B., B.Sc., have kindly written the chapter on Ventilation. Professor Bulloch, F.R.S., has helped me to bring the chapters on the Nursing of infectious diseases in accordance with modern teaching. Mr. Paul Fildes, M.B., has written the information on Salvarsan treatment. Mr. T. W. Lister, Ophthalmic Surgeon to the London Hospital, has written the chapter on the Nursing of Ophthalmic cases. Dr. Theodore Thompson, Physician to the London Hospital, has written the chapter on Blood Cultures and Blood Pressure. Mr. F. A. Hocking, B.Sc., the Chief Dispenser to the London Hospital, and Mr. George Gunthorpe, the Superintendent of the Operating Theatres, have kindly been of service to me.

Many Nurses will share the gratitude I feel for the advantage they derive from these important questions being dealt with by such acknowledged authorities on the respective subjects.

I am also much indebted to my Assistants, and to many of our Sisters, for the help they have afforded me in regard to the existing methods of technical Nursing, which prevail in the wards of the London Hospital to-day. More especially, I must place on record my warm appreciation of the invaluable practical assistance of my Senior Assistant, Miss Beatrice Monk. She has taken infinite pains in helping

me to obtain accurate information on innumerable details, and has spent much time, not only over the troublesome task of preparing the Index, but in helping me with the reading of proofs, and other work in this connection, for which it is not easy to find time in the midst of a very busy daily life.

I have only to add that the years which have elapsed since I wrote the Preface to the Second Edition of this little book, have but served to confirm the conviction then expressed, that something more than sound technical knowledge is required to make a real Nurse. The practical experience to be gained in our great Hospital is unique in many respects. It ensures, as far as any system of training can do, that Nurses holding the London Hospital Certificate, have acquired skill and practical efficiency in discharging the technical duties of a trained Nurse.

But the fact remains, that if a Nurse is to be worthy of her calling, her work must be inspired with the right spirit of Nursing, *i.e.* of active sympathy with suffering, manifested by unwearied kindness and unselfish devotion to the patients entrusted to her care.

Fortunately multitudes of highly trained Nurses continue to cherish this ideal, and amidst other undeniable evidences of success in their profession, will freely acknowledge that the best reward the privilege of serving others has brought them, is summed up in the words of Mrs. Barrett Browning—

‘ Thy love
Shall chant itself its own beatitudes,
After its own life working. A child-kiss
Set on thy sighing lips shall make thee glad ;
A poor man served by thee shall make thee rich ;
A sick man helped by thee shall make thee strong ;
Thou shalt be served thyself by every sense of
service which thou renderest.’

EVA C. E. LÜCKES

London Hospital,
Whitechapel, E.
April, 1914

PREFACE

TO THE SECOND EDITION

THE bulk of the contents of this volume was first published in 1884. Until now only slight alterations have been made in subsequent editions, although no one has been more conscious than myself of the ever-growing need for bringing many technical details up to date.

These instructions on Nursing have appeared hitherto in the form of lectures. The present volume has been entirely re-written and taken out of the lecture form, in accordance with a suggestion made to me by Mr. Sydney Holland,* the Chairman of the London Hospital. Acting on this suggestion, a great deal of useless repetition has been avoided. I owe much to Mr. Holland's critical judgment, and to the interest he has taken in assisting me to make the present edition more likely to be of service to those whom it is my earnest desire to help.

I gladly avail myself of this opportunity of acknowledging the great personal obligation I am under to all those who have at any time helped me, directly or indirectly, with their practical knowledge of details connected with Nursing. I need scarcely say how greatly I am indebted to many Doctors and to many accomplished Nurses for much of the information contained in these pages.

It was mainly with a view to helping past, present, and future Nurses of the London Hospital that this book was first written, though not without a hope that any usefulness it might possess would be extended to others also. But, now that it has been published so many years, it would be almost ungrateful of me to refrain from thanking the innumerable strangers—Nurses and others—who during this period have so frequently taken the trouble to assure me that what I have endeavoured to set forth has been of service to them.

* Since writing this Mr. Sydney Holland has become Viscount Knutsford.

Perhaps only those who have tried to write down definite instructions for Nursing the sick can fully realize the utter hopelessness of attempting to teach real Nursing by one's pen only.

It will be obvious to all fully Trained Nurses who may read this book, that I have avoided using technical expressions when simpler words answered the same purpose. Many books are published containing an abundance of technical instruction, and there is no need for me to add to their number.

Throughout I have been anxious to emphasize my conviction that a woman's *chief* qualification for Nursing does not lie in the direction of technical acquirements, although of course, these are essential.

No one who is acquainted with the all-round system of training laid down for Probationers who pass through the Training School of the London Hospital, can imagine that we underrate the value of sound theoretical and practical training. But, what I most earnestly desire to protest against, is the growing tendency amongst Nurses and the public, to overrate both the importance and the amount of technical knowledge that a Nurse should possess. The inevitable result of this is to concentrate attention chiefly on the mechanical side of Nursing, and to regard the human side of the work as a secondary consideration. Those who aim to become Nurses merely by book knowledge and examinations can, at best, only become machines. Their presence will bring no sense of comfort to those who are suffering, or to those who are anxiously watching every turn in the illness.

There is a real danger at the present day that the fact that Nursing is an *Art* may be lost sight of; and work which affords scope for the exercise of some of the most beautiful qualities of which human nature is capable may thus be degraded into a mere 'Profession.'

In many respects progress has been rapid during the last twenty years. But the needs of Nurses, and the means best calculated to produce the highest type of Nurse, are, as yet, but slowly realized in very many directions.

When we listen to those who have reason to complain bitterly of their own individual experiences of Nurses, it is

rare indeed for ignorance of a Nurse's practical duties to be the ground of complaint. It is noteworthy that the grievance is almost always due to the lack of those personal qualities which are absolutely indispensable to real Nursing.

We may all agree that, at the present stage of development of Trained Nursing, the highest class of Nurse is comparatively rare, and admit that it is difficult to know how to secure exactly the right women in sufficient numbers, as the need for their services increases. Those who put their faith in Registers and Examinations, as a means of judging whether a woman possesses those qualities which alone can make her services acceptable in the sick-room, are no nearer solving the problem. These means are ill-adapted to the end in view. People thus seeking to get a good Nurse are pursuing their investigations in a wrong direction, and therefore their efforts to ascertain, what no examinations can test, are not likely to be rewarded with success.

Mechanical Nurses can be produced by machinery. But what kind of a substitute is a human machine for a tender-hearted woman, who, from practical training and experience, is skilled in the services and attention which sick people require, and whose devotion to her work is inspired by a genuine love of, and satisfaction in helping, those who are in need of what she has to give?

Not for one moment do I forget that an elementary knowledge of physiology, of medicine, and of surgery is by no means incompatible with a genuine love for Nursing. But what I am anxious to insist upon is that technical knowledge is of *secondary* importance in a Nurse, and can never take the place of those characteristics which are essential to real Nursing.

In proportion as this danger is realized, its evils will be diminished, and the best energies of the best women will be turned in the right direction. The risk lies in the conditions of Nurses' work, and of what is demanded from them not being truly seen, and in Nurses and would-be Nurses, in their very desire to excel, being led to 'spend their money for that which is not bread, and their labour for that which satisfieth not.'

With all my heart I thank those Sisters and Nurses who have felt and seen with me in this matter for so many years, and who have so faithfully brought their personal influence to bear on the young Probationers whom we have been trusted to train. It must be remembered that these quickly passing generations of Probationers form a distinct proportion of the Nurses of the immediate future. Most earnestly I would plead with them, in their turn, to carry on the tradition of their Training School in this respect.

My hope for the future of Trained Nurses, and for the advancement of Trained Nursing, lies in the conviction that the relative value of personal character and technical knowledge will be duly recognized as time goes on. Everything which tends in the opposite direction will inevitably hinder progress.

The vital importance of character, and the due—not the undue—importance of technical knowledge cannot be too strongly insisted upon. They must be so happily combined that, on leaving her hospital, every Trained Nurse will be rich in what she has to give, and will be loved and respected accordingly.

Years of hospital experience cannot supply the lack of those personal qualities which real Nursing demands. But, given the right woman, the opportunity of working for a certain time in a well-organized Training School, so that suitable instruction is blended with practical experience, the necessary technical knowledge is almost ensured.

As far as the majority of Nurses are concerned, our hospitals should be regarded as—

‘ Machinery just meant
To give the soul its bent,
Stamp it, and turn it forth *sufficiently* impressed.’

It is my profound conviction that the degree in which this truth is accepted by Nurses, and by the public, is that by which the true progress of Trained Nursing may be measured.

The demand and supply of what has been rather sadly called ‘ the modern Nurse ’ may fluctuate until her unfitness for the duties assigned to her is gradually recognized. But, the true Nurse, *i.e.* the right woman, who has trained services

to bestow on sick people, is the *only* one who can hold her own *permanently*. This is true because what she has to give is adapted to the perennial needs of human nature.

Every year serves to strengthen the conviction just recorded, and it must be conceded that this opinion has the merit of being founded on considerable practical experience. On the day on which I am writing these words, I have spent exactly half my life in the hospital world. For nearly eighteen out of the twenty-two years covered by this period, I have been Matron of this hospital, and privileged to work with many whose lives and work command my utmost admiration, and to whose faithful labours, here and elsewhere, the reputation which London Hospital Nurses enjoy is mainly due.

May I plead with all who can call themselves 'Londoners' in the present, and with all who may do so in years to come, to remember, wherever they are working, that it never occurs to us to say of any one of those of whose connection with us we are the most proud, 'She came out first in Examinations,' but that 'Her work succeeds because she does it faithfully in a bright, unselfish spirit'? There are many belonging to us of whom we can say with just pride, 'They help all with whom they come in contact—not because they can produce any number of Certificates, but, *because they love so much!*'

EVA C. E. LÜCKES

September 14th, 1898

My most grateful acknowledgments are due to Mr. J. G. Broodbank (Acting-Chairman of the Poplar Hospital) for all the trouble he has voluntarily taken to prepare so complete an index for the former editions of 'General Nursing.' I am very much indebted to him for the kind and generous interest in the subject which induced him to take so much pains to render this little volume of greater service.

E. C. E. L.

September, 1899

‘ Greatly begin ; if you have time
But for one line—be that sublime ;
Not failure, but low aim, is crime.’

NURSING

CHAPTER I

GOETHE tells us that 'everything in this world depends upon distinctness of idea and firmness of purpose.' This is a very strong expression, but a very true one. When a woman decides that she wishes to become a Nurse, unless she has a very distinct idea of what she means by that, and of what the process of training involves, she will inevitably waste a great deal of time, even if she has the 'firmness of purpose' necessary for the attainment of the object she has in view.

To begin with, it is important that a woman should be clear that if she seeks admission to a Training School for Nurses, she means to become, if possible, a skilled Nurse, and not a Doctor. Training Schools for Nurses are not established with the object of supplying second or third-rate Doctors, but to produce first-rate Nurses, which is quite a different thing. A Trained Nurse of average ability will be able to perform many little offices for the sick infinitely better than a Doctor of average ability could, and Doctors themselves are the first to acknowledge this.

Doctors and Nurses are both essential to the welfare of the sick. Nothing is gained, and something is lost, if each is not content to do their own work in the way best calculated to promote the cure or relief of the patient. Many little difficulties and prejudices would be avoided if those concerned could realize that Doctors and Nurses have the same object in view, *i.e.* the well-being of the patient, but that their respective duties and responsibilities are quite distinct.

I am anxious to put Nurses on their guard from the first against those errors which bring so much discredit upon the

whole profession, and which, as a rule, merely arise from thoughtlessness, or a failure to grasp their proper position. But I am not inclined to underrate the importance of a Nurse's work. On the contrary, I am desirous all should realize that it ultimately depends, not upon the public, but upon Trained Nurses themselves, whether they are to be universally considered efficient helps, and be valued and respected accordingly—longed for and welcomed in every household when the need for their services arises—or whether they will prove themselves unworthy and incompetent to fill the satisfactory position which is now open to Trained Nurses.

Trained Nurses must scrupulously avoid anything which approaches to amateur doctoring, not only for their own sake, but for the sake of the whole Nursing Profession. It prejudices all who come in contact with it against the education of Nurses, and is held in as much contempt by all really accomplished Nurses as any other sort of quackery is by duly qualified Practitioners. The public does not always appreciate the distinction which exists between the work and qualifications of Doctors and Nurses. Occasionally we are told that some Nurse is 'almost a Doctor,' in a tone meant to convey hearty approval. Although a sensible Nurse accepts the well-meant praise in a good-natured spirit, it is not expressed in the form most acceptable to her.

Doctors and Nurses have the same object in view, *i.e.* the aid of the sick and suffering. There are circumstances when each may be forced into doing a little of what is, strictly speaking, the other's work. If no Nurse is present in an emergency, a Doctor has to do some of a Nurse's work; and, on the other hand, it may happen that a Nurse has to act in a way that would be unjustifiable if a Doctor was within call.

A beginner has to concentrate her attention upon what is needed to make her a good Nurse. She cannot realize too soon that her ultimate value will depend, not upon her technical knowledge—important as that is—but upon her personal qualifications for the work she has chosen. Too much has been made of the technical knowledge necessary

for Nurses ; and then, when the public are disappointed in the result—as they necessarily must be—they turn round unfairly and say ‘Nurses are so unsatisfactory,’ or ‘Nurses are so incompetent.’ It is the lack of those personal qualifications which have not been sufficiently cultivated, which have detracted from the quality of the Nurse’s work. Accurate technical knowledge is essential. This fact is universally accepted, and no longer needs proving. But the point which is too apt to be lost sight of is—that technical knowledge for the most part comes second, and personal fitness for the work is *the* most important consideration to ensure a Nurse’s success.

People too frequently forget that Nursing is an Art. This fact must be remembered, and Nursing must not be regarded merely as a profession. The science and art of Medicine and the art of Nursing should go hand in hand in the service of the sick. If we admit that Nursing is an Art, it is easy to understand at once what people mean when they speak of ‘born Nurses.’ It is natural to speak of those born with a gift for music, painting, or any other art. We mean that those so spoken of have gifts which can be drawn out—not that they know by instinct everything there is to learn about any one of these subjects. Gifts, great or small, must be patiently cultivated, and the utmost trouble taken to bring them to perfection. When a woman enters a Training School for Nurses, she does so with the object of having any natural gifts for Nursing that she may possess developed and cultivated to the best advantage. People learning to play the piano do not enjoy practising scales and five-finger exercises, but, if they are musically gifted, they know that the object they have in view is well worth the trouble. It would help many a would-be Nurse through what appears to her the *unnecessary* drudgery inseparable from the beginning of thorough hospital training, if she could realize that much of which she cannot see the advantage is essential if she is to become a thorough Nurse. This is why it is impossible to make a *real* Nurse out of a woman who has no gift for Nursing, even if hospital life is attractive to her, or if she chooses it as the least irksome way of getting a living. Many people would like to be

great singers, and many people like music ; but, if they have no voice, and no gift for music, their very best efforts will only secure doubtful success. But, when a 'born Nurse' wishes to cultivate her natural gifts and become 'trained,' a great deal will depend upon the use she herself makes of her opportunities during her training.

Many a Nurse, in looking back, will readily admit that she wasted numerous opportunities during her Probationer days, because she failed to see how much it depended upon *herself* to make the advantages provided by her Training School really her own. Grown-up women cannot expect to be taught as though they were children. Time has been, and often is, wasted, as far as the Nurse's own progress is concerned, because she fails to perceive in what direction she must exert herself to acquire the knowledge which she has presumably entered the hospital to gain.

Those who aspire to be Nurses will do well to recognize from the first the wide distinction, both in kind and in degree, between the knowledge necessary for a Doctor and the knowledge necessary for a Nurse. It is useful for them to have a clear and definite idea in their minds of what a 'Trained Nurse' should know and be, that they may not waste time and energy in endeavouring to acquire the sort of information that will not be of real service to them in their own distinct work.

If we reflect for a moment on what a complicated machine the human body is, and what a vast amount there is to be learnt respecting it, it is not difficult to believe that years of study are not sufficient to attain a complete knowledge of it. There is the study of anatomy, which teaches us what the body *is*—*i.e.* its general structure, size, weight, and so on. The relationship and position of each separate organ, how and of what material each part is made—this alone is an inexhaustible source of study.

The same may be said of physiology, which is the science that teaches us what the body *does*—*i.e.* how the heart beats, for instance, and how the different organs work. Then the chemical composition of the body—the various elements of which it is composed, and how the various tissues are affected by different things. This forms the third science

which is essential to the understanding of the human body—first, in its healthy condition, and next under the varied morbid conditions of disease. But, when all this is known, it only becomes the groundwork upon which the Doctor builds his subsequent studies into the nature of disease—how to find it out, how to prevent it, and how to cure it.

It is very desirable that Nurses should have a clear idea of what a Doctor's position is, and what relation they, as Nurses, bear to him in their mutual work. The Doctor, when called to a sick person, first turns his attention to finding out what is the matter. When once he has made a diagnosis, as it is called, or ascertained in what way the patient is affected, he proceeds to determine a plan for the treatment of the case, and, if need be, for preventing any spread of the disease to others. It is a Nurse's part to efficiently carry out the Doctor's orders, and to intelligently and carefully observe, for the purpose of reporting with absolute accuracy, what occurs in the Doctor's absence. It is by educating their powers of observation in this direction that Nurses become of such valuable assistance in aiding the cure and alleviation of the sick and suffering. But, very important as it is that Nurses should be strictly accurate in such points, it is as agents in administering a system of relief to the patient that they are chiefly required. It is in carrying out the treatment of the case, and in taking care of the patient, that Nursing consists.

A plan, based upon scientific principles and knowledge, is laid down by the Doctor ; the carrying out of that plan is entrusted to the Nurse. It is clear, therefore, that a Nurse is placed in a very responsible position, and that she has to perform duties demanding intelligence, as well as some technical knowledge and considerable skill. No Doctor can refuse to learn of some matters from a Nurse, for he is conscious of her greater familiarity with, and of her greater aptitude in, many details ; but he will most properly resent any interference on her part with those subjects which are within his own sphere.

Nurses have to consider the methods of administering relief, not how to direct treatment ; that is essentially the Doctor's business. For instance, it is the Doctor's part to

prescribe a poultice if he thinks it will benefit the patient ; it is the Nurse's part to know how to make a poultice, and how to put it on. It is for the Doctor to decide whether a patient must be kept in bed, and how long he must remain there ; it is for the Nurse to know how a patient may best be made comfortable in bed, and how that bed should be made. These simple examples serve to show the respective duties and position of Doctor and Nurse and also illustrate how utterly dependent the patient's welfare is on the skill and efficiency of both.

The work of Nurses is neither to rival nor interfere with that of Doctors, but in every sense to *help* them. Is not Nursing so distinctly a woman's work, chiefly *because* it is *helping* work, if it is rightly done ? This has been, or should be, the characteristic of woman's work from the creation ; so it is by no means taking a lower standard for ourselves to acknowledge this, or rather to aim that it should be so, and I think Nurses cannot do better than keep this thought in their minds.

Nurses must think very seriously of the work itself. It is not easy nor insignificant. If any are tempted to fancy so, they will aim at merely technical qualifications, contenting themselves with sacrificing the substance for the shadow. It would be well for all would-be Nurses, and all who are Nurses, to think of the *power* which rests in their hands. How completely all the Doctor's efforts for his patients may be frustrated by careless carrying out, or neglect of his orders, and how terrible the consequences may be ! Life may be literally lost, or suffering cruelly increased by ignorant or inefficient Nursing. So very much depends upon Nurses that they can scarcely exaggerate the importance of making themselves in every way fit for the trust which is reposed in them. If, on the other hand, the work is measured by its difficulties, by the patient courage which it demands, by the real strength of character which it takes, to go on quietly doing the sometimes disagreeable and often wearisome duties which fall to a Nurse's share, day after day, or night after night, no thoughtful person will be inclined to say that Nursing is work that 'anybody can do.'

I would have all Nurses set a very high standard before them, and earnestly resolve never to rest satisfied with attaining anything short of the very best. A true Nurse's object must be to do everything connected with her patients in such a manner as never to give them the least *unnecessary* pain or discomfort. A Nurse soon learns that it is worth while taking a great deal of trouble over the smallest detail, if by so doing she can cause less suffering to those dependent upon her. When a Nurse has the joy of realizing that she is able to do this, she will feel more than repaid for all the trouble she has taken to become skilful.

Some Nurses have a rooted conviction that if they are thorough they must necessarily be slow, but to be quick and gentle at the same time is a habit that should speedily be gained by hospital training. A competent Nurse will never allow her patient to *feel* hurried, if it can possibly be avoided ; but, if she is gentle in her movements and manner, she will instinctively avoid letting her patient get 'flurried,' though a slow Nurse, lacking these qualifications, may often cause a weak patient that unpleasant sensation. Sick people almost invariably dislike bustling movements, but they often dread having necessary attentions *unnecessarily* prolonged.

Unless a woman is prepared to be very patient and painstaking over all the innumerable 'little things,' her work will never be thoroughly 'trustworthy.' She must endeavour to learn, and to do as *much* as she possibly can, if she wishes to be a *real* 'Nurse ;' for no one worthy of that title will ever spare herself trouble at the expense of her patients. If the idea of spending upon her patients the very best she has it in her to give, does not commend itself to any woman who aspires to be a Nurse, she would be well-advised to choose some other profession ; otherwise, even if she manages to get through her training, every patient entrusted to her care will inevitably suffer through her deficiencies.

It cannot be too strongly insisted upon that the personal qualities, as well as the technical knowledge of a Nurse, are very important matters from the patient's point of view.

There is simply no limit to the opportunities for good which fall to a Trained Nurse's share. As Nursing is so

pre-eminently a woman's profession, Nurses must ask themselves 'what sort of women Trained Nurses should be?'

If all who put on a Nurse's uniform could realize that henceforth they must not fail to 'walk worthy of the vocation wherewith they are called,' it would be an immense help in enabling them to do so. This conviction would be a great safeguard against the many little temptations to negligence which constantly occur.

When a woman deliberately chooses to become a Trained Nurse, she should count the cost before she sets forth. A Nurse's life should be full of cheerful, loving service. If she has thought over the matter with sufficient earnestness, she will not wish to offer unto God or man 'that which doth cost her nothing!'

CHAPTER II

MANY Nurses, on first entering a hospital, make the experience harder than it need be for themselves, because they find it difficult to banish their pre-conceived notions of what *they* think hospital life and training ought to be. They waste a certain amount of time, thought, and energy in comparing what *is* with what they *expected* to find it, or with what *they* are convinced it *ought* to be. They have had friends trained in hospitals, or they have heard from many Private Nurses, perhaps, various things, which may have been correct enough in themselves, but which have only sufficed to give wrong impressions to those wholly ignorant of the subject.

New-comers would do well to devote their energies, in the first instance, to understanding what is expected of them, and in endeavouring to conform in a cheerful spirit to all existing regulations. These regulations may be far from perfect; the conditions under which the work has to be carried on may leave much to be desired; but, it is only reasonable to believe that those who can speak with experience are more likely to know what is *best* as well as what is *possible* in details affecting the welfare of large numbers, than those who are new to the work, and, therefore, only able to regard it from a personal and more limited point of view. I would not be understood as wishing to discourage intelligent observation and reflection on matters connected with the organization and administration of a hospital. Life in a large community is a novel, and often an interesting experience to those who enter upon it. I do not say for one moment that arrangements made for the

good of all can be expected to give complete satisfaction to each individual Nurse, but immature criticism is seldom valuable. It takes new-comers some time to realize that even improvements which may be desirable, cannot always be immediately introduced. A very little experience suffices to modify the views of beginners on most details of hospital routine and management; but the point on which I think a hint may be useful is, that the Nurse herself is likely to profit more by accepting, in the first instance, what she finds without question, than by adopting a critical mental attitude, which is of no immediate service to herself or to others. When a Nurse wishes to know why a certain system is considered best, or why what she deems certain drawbacks to its efficiency are not altered, she should choose a suitable opportunity of seeking information on these points from those more experienced than herself, instead of discussing her difficulties with an equally new-comer. This is a mistake that many young Nurses make, and one which they would be glad afterwards to have avoided.

Nurses are required to be truthful, obedient, punctual, calm, cheerful, pleasant, clean and neat. It is important that they should bring the valuable qualities of memory, forethought, and method to bear upon their work, in addition to the essential characteristics of unselfishness and a genuine sympathy with suffering. It is superfluous to insist upon the value of any one of these qualities from a nursing point of view, for their influence upon a Nurse's work must be apparent to all. But how many women who enter a hospital with the object of acquiring a technical knowledge of Nursing, can call all these indispensable qualities their own? No one can reasonably dispute the difference it will make to a patient if a Nurse is deficient in any one of these points. Yet, when we enumerate these virtues, one after another, every one will admit that the possession of all of them is rather the exception than the rule. If a Nurse can but once realize that the quality of her work throughout her whole nursing career will be influenced by the degree in which she possesses these essential nursing characteristics, she will understand from the outset that it is at least as important to study how best to become

proficient in them as it is to acquire the technical knowledge which she enters a hospital to gain. An earnest worker, realizing her deficiency in some of these points, and eager to improve, will not fail to ask herself how she can make some practical effort in this direction without loss of time. The answer certainly is—by the cultivation of *good Nursing habits*. A Nurse will best acquire these by heartily making use of the means afforded by her Training School for the *true* education of Nurses, and to fit them for the many varied and legitimate claims of their work. Well-managed hospitals afford abundant opportunities for the necessary exercise of the very qualities that need strengthening and developing in the characters of most women. By faithfully carrying out the rules laid down for her guidance, an intelligent Nurse will soon appreciate the fact that many of them are calculated to help her more than she would have imagined possible. But it is only those who are prepared to accept this temporary rule of life in the right spirit who will derive full benefit from it. If a Nurse keeps the end to be attained steadily before her, she will, as a sensible woman, soon discover which are her own weakest points. If she is observant and adaptable, she will profit by the help, and perhaps the energetic, though kindly meant fault-finding of those under whom she serves, and will end by making these weak points her strong ones. Spasmodic efforts may help a Nurse through a difficulty, but only sustained efforts will suffice to gain sound *Nursing habits*, which reward the Nurse for the trouble taken by becoming a kind of second nature to her as time goes on.

Punctuality. It may be asked in what way hospital routine helps the formation of what I have called ‘good Nursing habits.’ Let us take punctuality as an illustration. No one doubts the value of punctuality in a Nurse. Unpunctual Nurses have lost their patients before now by neglecting to administer the required medicine or stimulants at the right time. When treatment is ordered to be applied or repeated at any particular time, the Doctor intends that the patient should have the remedy prescribed at the hour specified, which does not mean that a Nurse should casually begin to get

it ready when the patient ought to be getting the benefit of it. Many Nurses fall into this error from sheer thoughtlessness. Sometimes the consequences of delay are serious ; frequently it may happen that they are not important to the patient ; but they are a distinct indication of a slovenly habit in the Nurse herself.

The patient's sense of confidence and dependence upon his Nurse will become much more restful to him when he finds that he can be certain of her punctuality. He will often begin by anxiously reminding her that his food or medicine is due, or that his poultice ought to be changed ; but when he finds these things are always attended to at the right time, he will gradually cease to disturb himself about them.

The ordinary routine of a hospital necessitates punctuality. Probably there is nothing more effectual than daily life in an institution for teaching any woman the value of time. Beginners sometimes think that if they stroll back to their wards five or ten minutes after they are due on duty, that it is 'quite near enough.' But they find that perhaps they have been depriving a fellow-worker of the time off duty which was fairly her due ; that they may even have altered her plans for spending that off-duty time by making her late in starting, and that, in any case, an explanation of why the new-comer is late is required.

Large numbers could never have their meals served in any comfort if one after another came in late, so punctual attendance at meals has to be marked against the Nurses' names in a register, and strict punctuality is required. The work and the hours are so arranged as to facilitate perfect punctuality all round. Any frequent or prolonged disregard of this is not only looked upon as evidence of carelessness on the part of a Nurse herself, but it causes inconvenience to others, and both these considerations would have weight with any woman wishing to fulfil her duties efficiently. A Nurse soon learns, too, from her own practical experience, that punctuality saves time—her own time as well as other people's. If a want of punctuality has been a personal failing before a beginner enters upon her Nursing career, her first impression is apt to be that her days go in

one long struggle to be in time, and usually she interprets this to mean that there *is* no time for anything! But, if she is in earnest, she soon learns better than that. She sees how much real leisure her fellow-workers are able to get out of their off-duty time, because they arrange it well, and she discovers by degrees what a valuable qualification punctuality is. I do not mean that a habit of perfect punctuality is gained without perseverance. But, all the influences of hospital life tend to show the value of punctuality from a Nursing point of view, and to aid in its development. It does not speak well for the use any Nurse has made of her hospital experience, if she again drifts into habits of unpunctuality when she is no longer working under supervision.

Truthfulness. The newest and most inexperienced of Nurses can realize the importance of absolute truthfulness. They should earnestly guard

themselves against the many temptations which a Nurse finds not to be strictly accurate. Any want of truthfulness on the part of a Nurse may seriously affect the welfare of her patients, who are often practically helpless in her hands. She is obviously useless to a Doctor if he cannot rely upon what she tells him. No sensible Doctor will lose confidence in a Nurse if she honestly owns that she has forgotten what she should have remembered, or that she has failed to observe what she should have noticed, unless she is habitually careless in these respects. It is degrading to a Nurse's own character to fail in exact truthfulness, and she must take infinite pains to avoid giving a false impression. She may have to learn a great deal before it will be possible for her to give a thoroughly accurate report of some complicated case, and before she has learnt fully how and what to observe. But, she can always report *facts* accurately as far as she knows them, and refrain from drawing upon her imagination.

Obedience. Prompt, intelligent, and careful obedience is one of the distinguishing qualities of a perfectly 'trained' Nurse. If she fails in this she is not entitled to be considered really 'trained.' A Doctor cannot place implicit trust in a Nurse unless he can be sure that

his orders will be carried out with intelligent obedience. Implicit obedience to orders is the clear duty of every Nurse when she enters hospital life, and beginners should not add to the difficulties of those whose duty it is to rule, by questioning what they say. A new Nurse will find it less difficult to give this necessary obedience if she reminds herself that the responsibility rests with the person who has to give orders—not with the one who has to carry them out. A moment's thought will show her that the welfare of the patients necessitates the obedience which is exacted from her, and that, in carrying out orders faithfully, she herself will have the best chance of letting passive obedience (which is all she can offer at first) develop into the active, intelligent obedience which comes with fuller knowledge, and which is the result of training.

Loyalty. It is the clear duty of a Nurse to be loyal to those under whom she serves. If she does not learn this when she is beginning her Nursing education in a hospital, she will not have acquired the habit of loyalty which will enable her to work in the right spirit with the Doctors with whom she will be associated in the care of patients later on. Many women hardly realize, until they enter a hospital, what working together for the attainment of one object—the sense of unity in work—really means. Generally speaking, women have not the same opportunity as men for gaining this experience, but hospital life provides it. It is clear that disloyalty helps nobody, and simply creates discord and confusion. It is pleasant for a Nurse when she is able to respect and admire those for whom and with whom she is working. It makes her work much brighter and easier. Many are lucky enough to be able to do this, but, unfortunately, it cannot always be the case. Nurses should grasp the importance of the principle of personal loyalty when it is not secured by the help of personal liking. Every Nurse is certain to find that the habit of personal loyalty will enhance the value of her work sooner or later, and be a guide to her in difficult positions. A Nurse will find that the habit of loyalty needs cultivating. It is helpful for a Nurse to understand that she is not responsible for the faults of those under whom

she is serving, but she is responsible for her own words and actions. It is a fault to speak against the head of a ward to those who have to work under her, and to spread reports throughout the hospital against a ward, or those working in it. Nurses sometimes do this—at meal times, for instance—with most undesirable freedom, thus giving offence to others, and getting themselves disliked in consequence. For the most part, this is done either in a little outburst of temper, or from sheer want of thought. But a Nurse who does this has not begun to learn what a habit of loyalty means. Even if a Nurse is right in her opinion, it may not be wise, or in the least necessary, for her to express it. If she cannot sincerely praise those with whom she is associated in work for the time being, she can at least try to be silent. The gain to her of a habit of self-restraint, as well as of loyalty, will amply repay the effort involved in refraining from injudicious remarks. A Nurse should endeavour to be loyal, both to Doctors and to her fellow-workers.

Hospital manners.

The cultivation of good hospital manners is another point to which all Nurses should turn their attention. The matter is too important to be overlooked, and a few suggestions may be of service to those who may never have thought much about it. It need hardly be said that manners that would be quite suitable at an entertainment, for instance, would not be adapted to a church; or behaviour that would be quite pleasant and comfortable in our own homes, would not be at all proper in the streets. Hospitals are public buildings, and Nurses must endeavour to remember this, and never allow themselves to behave in what is known as a 'free-and-easy' fashion when they are on duty.

‘Manners are not idle, but the fruit
Of loyal nature and of noble mind.’

We may therefore take it that they indicate a great deal of character. It seems more natural to some than to others to have what we call 'good manners,' but those who are not fortunate in this respect can acquire them to a great extent. This qualification in a Nurse makes so much difference to

others that she must take great trouble with herself in this direction.

Every member of the Nursing Staff of a hospital should remember the courtesy that is due from each one of them to strangers who enter the wards unattended. It is an extremely awkward feeling for any visitors to go into a ward, whatever their mission there may be, and to find themselves completely ignored. It need scarcely be said that a Nurse should never remain seated while visitors are passing through her ward. It is the distinct duty of the Nurse in charge of the ward, or, if she is engaged at the moment, for any other member of the Nursing Staff who may happen to be present, to go up to a stranger who is hesitating where to go or what to do next, with the simple question, 'Is there anything I can do for you?' The visitor may be of no special consequence, but a Nurse's manners are always of importance. It would distress me personally, and be a reflection upon all our Nursing Staff, if any member of it were to be found wanting in that ready courtesy and kindness which is admirable under all circumstances, and almost a necessity for those who are in any way connected with the public life of a hospital. I have heard that there are persons who, by some extraordinary perversion of ideas, are under the impression that it is derogatory to their dignity—or 'beneath them,' as I believe the phrase goes—to pay attention to such little matters as these. They fail to see the necessity of showing the consideration due from all wearing our hospital uniform, to those who may address them, apart from any question of the social standing on either side. There are other persons, again—and I believe these are more numerous—who rather pride themselves on a certain abrupt curtness of speech, most unpleasant to those who have to submit to it, but which the speakers erroneously think amply atoned for by the explanation that it is 'only my manner'! If that is the case, the sooner it is altered the better it will be for all concerned, for this is no adequate excuse for rudeness. It can do us no harm to be duly impressed with the practical truth conveyed in the poetical statement, that 'the gentler born the maiden, . . . the more bound to be sweet and serviceable.'

Next, with regard to a Nurse's official manner to the Sisters. She should not sit down, nor remain sitting, when the Sister is giving her orders about the patients or her work. It is not polite, and does not look well. Of course it is different if Sisters and Nurses are only talking together. The social position of the Nurse or of the Sister does not affect the question at all. This is simply the courtesy due to the Sister of the ward from those working under her. It is a detail that a Nurse should not need to be told twice, for she must be careful to remember small points of hospital etiquette. It makes daily life pleasanter for herself, and for those with whom she is working.

If a Nurse goes rushing and clattering about, when perhaps the Doctors are using their stethoscopes, they can scarcely fail to notice the want of perception that such an action displays.

Loud voices, rattling chatelaines, and noisy boots are thoroughly unnurselike. Any one of these things is obviously distressing to patients, and I should scarcely have thought it necessary to speak of them, if I did not know, from daily experience, how slow some Nurses are to discover the importance of these details. It cannot have occurred to some, who appear to think it hard or unreasonable that they should be expected to conform to the requirements of hospital life in such respects, what selfishness they display in allowing patients (who are not exactly in a position to complain) to suffer discomfort, rather than incur a certain amount of inconvenience themselves. I venture to think that women who are not above such small considerations of personal vanity as high heels, etc., are scarcely worthy to take up the work upon which they have entered. Much character is displayed in little matters of this kind, and selfishness is pre-eminently a defect which disqualifies a woman for the Nursing Profession.

Nurses must not report anything to the Medical Officers in the presence of the Sister. If there is any information that should be made known, the Nurse must tell the Sister, and it is for her to report it to the Medical Officer. Sisters are responsible for all that goes on in their ward, and it is a Nurse's duty to help them, by keeping them promptly

and carefully informed of any points connected with the patients ; but a Nurse must avoid taking the Sister's place when she is there. If a Nurse is attending to the Medical Officer without the Sister, then, of course, she must give him all the necessary information ; but it is a very ' untrained ' thing for a Nurse to answer or to ask questions, or to give reports, when the Sister is in attendance.

I am very distinct and definite about these small things, because, when Nurses are once told, they seldom forget them. I am confident that many will feel helped by knowing what is correct in these little matters. It is not possible to know them by instinct, and it is a disagreeable experience to find them out by making mistakes. If these details of manner do not strike any new Nurse—and it is quite likely they will not—other Nurses should take an early opportunity of giving her a quiet hint on the subject, because it will prevent her looking awkward and feeling uncomfortable on another occasion.

Of course, a Nurse will never think of sitting down or remaining seated when she is speaking or being spoken to by any of the Medical Staff, including the Dressers and Students; it looks unbusinesslike and unprofessional. There is, again, no question of social equality or inequality involved in this ; but if a Nurse forgets what is customary in this respect, those who are capable of judging will know at once that she is ignorant of ordinary hospital etiquette. A Nurse cannot always help other people's manner towards herself, though she can do a great deal towards making it what she wishes to have it. All affectation is contemptible, and patent to all observers. It is not by being frivolous and silly, nor solemn and disagreeable, that a Nurse will hold her own, and keep others in their place, but by a quiet, pleasant, gentle manner to *all* those with whom she is associated in her work.

Think of the harm that is done if a Nurse gives one man cause to think and speak worse of women than before he entered the hospital ! Every Nurse should remember that it depends upon herself, rather than upon the men with whom she comes in contact, whether they will ultimately leave the hospital declaring that they would not have their

sisters enter upon such a life for the world, or whether some of the Nurses they have known will have unobtrusively shown them a little of what is meant by the 'beauty of holiness'—as perhaps only a good woman can do. Much will have been gained if these men can have been taught by their own practical experience of hospital life that a Trained Nurse is not the sort of person to be lightly spoken of, nor idly trifled with, but one whose interest is centred in quite other things. A Nurse should give her fellow-workers a chance of respecting as well as of liking her, and she should do her share towards making every one feel that the sight of a Nurse's uniform is suggestive of those qualities which are universally regarded as most admirable in a woman.

Nurses' manners to patients. Nurses should be careful never to sit on a patient's bed, nor to get into the habit of leaning up against the tables, chairs, and beds, under any circumstances. It gives an impression of slovenliness, is quite unnecessary, and sometimes causes pain.

A kindly, pleasant manner to patients is simply invaluable in a Nurse, and will go a long way towards inspiring those entrusted to her care with complete confidence in her power and ability to serve them. The effect of a Nurse's manner upon a patient who finds himself, often most reluctantly, handed over to the care of a stranger, makes a greater difference than the Nurse herself often realizes. She may be a kind-hearted and devoted woman, ready to sacrifice herself to any extent if the need arises; but, if she has an abrupt manner, a sharp way of speaking, and what is sometimes spoken of as 'a disagreeable way with her,' the patient cannot be expected to accredit her with virtues of which he perceives no evidence. When it can be truly said of a Nurse that she never renders the most disagreeable service ungraciously, or looks as if it were the slightest trouble to her, she will have gone a long way towards earning the well-deserved gratitude of her patient. It will be well for the Nurse herself, and for all with whom she comes in contact, if she can always remember that services pleasantly rendered are doubly acceptable. It is hard for a patient

to be waited upon and made feel that the Nurse regards what she is doing for him as a trouble. It is not easy to be grateful for help reluctantly bestowed. In days when Nurses are never tired of saying that they 'love the work,' they must be very careful that their manner corresponds with their words, and give their patients a chance of realizing, by the way in which their wants are attended to, what this 'love for the work' really means. Of all people in the world Nurses should remember the injunction, 'Be pitiful, be courteous.' It is especially when patients are weak, and helpless and irritable that Nurses need to be gentle and considerate towards them. The manner of a patient towards his Nurse may often leave much to be desired, but a Nurse will find that often when he appears to take a kind of perverse satisfaction in seeing how sullen or annoying he can be, he will be secretly feeling grateful to the Nurse for her gentleness and forbearance with him. No one is at his best when he is ill and suffering. It is not reasonable to expect it. It is not only that illness affects different temperaments in different ways, but different illnesses will affect the same person differently, as far as temper and irritability are concerned. It may sometimes be truly regarded as a symptom of the disease. Shakespeare must have understood this when he said—

'We are not ourselves

When Nature, being oppress'd, commands the mind
To suffer with the body.'

In any case, we may be sure a patient has enough to bear without having to put up with a rough touch, or an impatient manner from his Nurse. If a woman deliberately gives up part of her life to wait upon sick people, surely it is worth her while to do it cheerfully. The degree of self-control a perfect Nurse requires should not only enable her to refrain from answering irritating remarks, but it should also enable her to suppress all signs of impatience, at any rate in her patient's presence. The patient himself may be making more efforts at self-restraint than is apparent by the result, and, in any case, the Nurse's self-command can scarcely fail to have a beneficial effect upon him. If

a Nurse can be sure that she would like to have such offices as she may need to perform for her patient rendered to herself, in the same manner that she is adopting towards him, she may rest assured that there is not likely to be much amiss with the way she is doing it. This principle is a safer test for a Nurse to take with regard to her failure or success in her manner of attending on sick people, than comparing herself with her fellow-workers ; unless, indeed, she is careful to confine the comparison to those who are truly admirable in their manner to patients. Frequently a new Nurse copies the manner of those with whom she is first working, without sufficient reflection as to whether it is really nurse-like or not, and in this way it may happen that she soon has something to *unlearn* as well as to learn in acquiring a nice manner towards patients. Any want of delicacy and refinement, on occasions where these qualities are specially required, not only proves that a Nurse is lacking in experience, but that she is also wanting in the true womanly pity and tenderness which should characterize a Nurse. Sympathy and kindness, if they are genuine, should find some form of expression adapted to the circumstances—not necessarily in words, but in manners. A Nurse must not content herself with the knowledge that she has good intentions, and yet leave her patient to take this fact for granted.

CHAPTER III

Nurses' health.

NURSES should take every legitimate opportunity of sitting down and of resting their feet. All Nurses have a great deal of standing, and the more they can save themselves in this way without detriment to their work, the better it is for them. If Nurses were to make a practice of putting up their feet instead of only sitting down, when they are off duty and not walking, they would often be much more refreshed and rested. Most Nurses suffer a great deal with their feet when they first begin hospital work, and it often makes them feel very tired when they are quite well otherwise.

Those who have already learnt to do feet and toe exercises will find great benefit from carrying them out for a few minutes two or three times a day. It is a good plan for a beginner to wash her feet with soap and hot water when she goes off duty, or before going on duty again. She must then rub the soles of her feet with eau de cologne or some other spirit which must be allowed to dry before replacing her stockings. If the feet are very tender boracic powder should be freely dusted on. If this process is repeated at night, a Probationer will soon reap the reward of the patient trouble taken, and her feet will cease to give her pain.

Fresh air. It is part of a sensible woman's duty to take proper care of her own health ; because, however good her intentions may be, she cannot do her work nor herself justice, *for long*, when she is not well. Plenty of fresh air, and as much change of scene as possible, are most necessary for Nurses. The patients, too, get the benefit of any freshness the Nurse gathers up in her recreation time, for it enables her to be all the brighter to them

when she goes back on duty. Nurses must try to resist the inclination to stay indoors 'because they are tired.' They will nearly always be glad afterwards, if they have summoned up sufficient energy to go out.

Recreation. Hospital work is very absorbing, and it is not at all good for Nurses to get their views of life narrowed by taking no interest in other things. Hospital friendships add a charm to the daily life ; but it is a mistake for Nurses to limit their pleasures and companionship, and to spend their off-duty time entirely in hospital surroundings and with hospital workers. There is more recreation to be had, for the most part, in going into fresh scenes, and in mixing with those whose interests lie somewhat outside the hospital world.

Nurses, of all people, ought to understand that it is impossible to keep well and in good working order without regular meals and fresh air. Both these things are specially important to those who are on night duty.

Good health is such an important matter for Nurses, that they should recognize the necessity of doing all that lies in their power to keep well. They should substitute common-sense and *real* unselfishness for the sentimentality, which is sometimes regarded as a virtue by superficial minds. There are emergencies, especially in Private Nursing, where the anxiety and temporary urgency are such that no Nurse would hesitate to spend herself physically and mentally more than is in the least necessary on ordinary occasions ; but these are exceptions and not the rule. A Nurse who knows that a patient is dependent upon her physical strength and other qualities for an indefinite time, and is desirous of proving equal to the demands made upon her, will realize that she must take all reasonable care of her own health. She will see that she is promoting the best interests of her patient, and of those who may be looking to her for comfort and encouragement in a time of trial, by taking her food as regularly as possible, and finding opportunities for getting fresh air, and a sufficient amount of sleep. It may look, at first sight, very amiable on the part of a Nurse to dispense with these necessities ; but the inevitable result is a temporary, if not a complete, breakdown of the Nurse's

best powers. As I have just said, there are occasions when in the interests of her patient or his friends, she will cheerfully sacrifice everything without a second thought; but a little reflection will show her that to neglect ordinary precautions conducive to a good standard of health, is to sacrifice the interests of her patient as well as herself. It is better to be *really* unselfish than merely to *look* amiable and self-denying; and, if a Nurse takes necessary care of her health in a pleasant manner, those who benefit by her services will soon see and appreciate the common-sense conduct which spares them trouble in the long run.

Talking about health. On the other hand, Private Nurses especially need to guard against a habit they too often drift into, of talking a great deal too much about their own health. It may safely be taken for granted that the last subject in which a patient is likely to be interested is the minor ailments of the Nurse. However unselfish the patient, he is the least likely to be sympathetic with the Nurse while he is on the sick list himself. There is nothing to cheer a patient in the information that his Nurse has a bad headache, or suffers from indigestion, or that she is a 'martyr to neuralgia,' or that such and such places never agree with her, or that she has not slept well. Unfortunately, few Nurses are exempt from minor physical ills, which they share in common with their patients and the world in general; but when they are ministering to the sick and suffering, the self-restraint which some would need to exercise not to enlarge upon their own ailments, may fairly be demanded in the interest of the patient, and should be studiously exercised. Nurses themselves are perhaps the last to hear how much patients complain of what they have had to submit to in this way from Nurses who have served them admirably in many respects, and to whom they are really grateful.

At the same time, Nurses should avoid the folly of struggling on with their work when they are really ill. Few things are more annoying to those who are responsible for the welfare of Nurses, and who are desirous of taking every care of their health, than to be told by some Nurse who is needing medical attention that she 'knows she has

had a temperature of over 100° Fahr. for the last two or three days,' but that she 'did not mention it' because she 'did not want to give in.' Nurses scarcely ever 'want' to give in, and few who know anything about the devotion of Nurses to their work would ever suggest that they do. But no sensible woman would think it right in ordinary circumstances, to remain on duty with a high temperature, or other definite symptoms of illness. After all, there is very little to admire in a Nurse implying, with a sentimental air of would-be martyrdom, that she 'might have given in before.' Had she spoken when she first felt ill, the chances are that she would have been off duty for a shorter time, and, in any case, she would have displayed more common-sense. No one wishes Nurses to work when they are ill. It is good neither for them nor for their patients, and I have known very bad work result therefrom. It is impossible to get through regular work of any kind if the worker thinks fit to give in over every little ache and pain; but there is all the difference between this extreme and the foolishness of attempting to ignore definite symptoms of illness.

There is plenty of room for much true self-sacrifice—none the less real because it may not strike others in the light of self-denial—which those who wish to be at their best in the service of others will think it worth while to make. Thoughtful Nurses will do well to reflect on this view of the matter.

**Necessary
care of
Nurses'
hands.**

Nurses need to be strongly warned about the extreme care that is necessary to immediately cover up any scratch or cut they may have on their hands, be it ever so small, while they are in the wards of a hospital. It is not being 'fussy' to do this, as beginners are apt to say. It simply shows that a Nurse has sufficient knowledge and common-sense not to risk poisoning her hand. It is some little trouble, but Nurses *must* take care of their hands. If a Nurse has forgotten to cover any little place where the skin has broken, before doing a dressing, she should immediately wash it in a disinfectant, and remedy the omission without further delay. Nurses *ought* not to get bad fingers, but they inevitably will

do so unless they take every precaution. Some disinfectants harden the hands very much, but a Nurse can keep them soft with glycerine, vaseline, lanoline, or other applications, particularly if she takes the additional trouble of rubbing some preparation of this kind thoroughly into her hands at night, and puts on gloves suitable for the purpose when she goes to bed. If a Nurse is going to put her hands into anything disagreeable, she should fill her nails with soap. When a Nurse needs to disinfect her hands frequently she should dip them in a bowl containing one teaspoonful of tincture of iodine to a pint of water. The same solution can be kept near at hand and used several times for the same purpose. It is much pleasanter for patients to be touched by a Nurse who keeps her hands and nails in as nice a condition as she can. No Nurse can be careless in this respect without grave risk to herself.

Care of teeth.

Another point to which the attention of Nurses must be drawn is the importance of keeping their mouths in a condition of thorough cleanliness. I need scarcely point out that decayed teeth are not only unwholesome in themselves, but they render the breath so unpleasant that no one who has not paid proper attention to this point is in a fit condition to come near a patient.

Some Nurses are not nearly careful enough to keep artificial teeth constantly clean. When this is not done they become a fruitful source of septic throats, and careful habits in this respect are even more essential for Nurses than for other people.

It is sometimes a Nurse's duty to give her patient good advice on dental matters, and she herself must be beyond reproach in this part of her toilet.

Gossip.

It may be useful to mention that there are one or two faults or temptations which people living together in a public institution somewhat readily fall into, unless they make a deliberate effort to guard against doing so. Any one who has had experience of hospital life will unhesitatingly agree with me that the two most prevalent failings are the tendency to gossip and grumbling. A hospital is a little world in itself. If it were possible to

sum up the time which is spent in any one building of this kind in one day in these two most unprofitable occupations, it would probably be surprising to know how many hours had been thus wasted. Gossip may do an immense amount of harm; it can do no possible good. The idle stories Nurses tell of each other, or of those with whom they are working, are often not entirely true. If Nurses do not fail in this respect, they are frequently not quite kind to each other, and each one who transgresses in this manner is sure to feel hurt and annoyed herself some time or other, when she finds that her own name has been mixed up with some trivial story, merely repeated and listened to for idle amusement.

It is noticeable, too, that nearly all this personal talk is of a disparaging nature. How seldom are the best characteristics spoken of, and how much easier it is to criticize real or imaginary failings on the part of others, than to emulate the good qualities which each one in some measure most certainly possesses! It has been well said that 'it takes heroic eyes to recognize heroic proportions.' If Nurses could remember this, they would perhaps strive more earnestly not to shut their eyes to the genuine self-sacrifice and steadfast perseverance displayed by at least some of their fellow-workers. They would hardly think it worth while to ignore the nobler qualities and to concentrate their attention solely on the weaknesses and shortcomings which, undoubtedly, are also to be found. I have never yet heard of any good done by making the obvious failings of others the subject of general conversation, whereas a little more attention paid to their good qualities might inspire others to do what in them lies to follow the best examples.

On the whole, it is much better to discuss events than persons, though I admit that this is rather a 'counsel of perfection.' It should, however, be distinctly understood that each member of a community living together can do a great deal to check the general tendency to gossip by making a personal effort not to indulge in it, or by making a kindly remark to lessen the bitterness of the attack on some fellow Nurse. Any woman who has the moral courage to show

distinctly by her manner that she is 'not interested' when thoughtless and undesirable conversation is going on, exerts an influence for good that is invariably felt. She may console herself for the unpleasant effort involved with the knowledge that such influence is *never* exerted in vain. There are times when it is the duty of every right-minded woman to speak out. But, on the ordinary occasions of everyday life, it would be well for every Nurse to remember that when she cannot sincerely praise, she can at least try to be silent.

Gossip is said, somewhat unfairly, to be one of the distinguishing characteristics of a household of women; but of all people Nurses should rise above this mischievous failing. It is sad, indeed, if a Nurse has to be classed with

'The long-necked geese of the world, for ever hissing dispraise,
Because their natures are little.'

It may safely be said that women with little natures instead of large hearts have no 'vocation' for Nursing.

Grumbling. Grumbling is a little different from gossip, inasmuch as it does the person who grumbles more harm than anybody else. Unfortunately, however, the mischief done by no means ends there. Half the gossip and half the grumbling that goes on in any institution is not 'meant' to do any harm, but that does not prevent evil resulting from it. It is probable that the very person whose voice has been loudest in complaint would be willing to admit, on reflection, that she had spoken on the impulse of the moment, and did not 'mean' to do any wrong. But that is not sufficient. It is the duty of every Nurse to avoid doing any harm. Long after some careless Nurse has forgotten something that she would wish unsaid, her remark is repeated in many directions, making mischief that she would be amongst the first to deplore. As Shakespeare tells us

'Things are often spoke and seldom meant.'

Nurses should remember this fact, and let it help them to overcome the temptation.

Every hospital Nurse knows that when she has a

thoroughly discontented patient in the wards, the dissatisfied spirit spreads in an incredibly short time. Nearly all the other patients become inclined to complain also, and to imagine grievances. It is the same with every other community, large or small.

Most of us will be ready to admit that we have no right to make life harder for others. Each one finds difficulties to overcome, without having them increased by any thoroughly depressing companions. Those who have a habit of grumbling should, as far as possible, be excluded from any community of earnest workers. The tendency of their influence is unhelpful to those who are anxious to make the best of things. Nurses get into these habits before they are aware of it, just because 'everybody does it.' The confirmed grumbler is never a general favourite. It would be useful if every Nurse who gets wearied with listening to her chronic complaints, would resolve never to let others suffer at her own hands in a similar fashion! In every hospital and in every household there is probably room for improvement; but grumbling is not the way to bring this about.

The duty of a Nurse to refrain from grumbling should not be misinterpreted to mean that she is to put up with everything that seems to her wrong or unsatisfactory, without making any effort to remedy the evil *by mentioning it to those who have the power to make alterations*. For the most part Nurses would find that those in authority are sincerely desirous of doing what is best for all. A genuine desire to mend matters is not likely to be mistaken for the discontented spirit which feels justified in grumbling to everybody, at everything which is not personally congenial. Any suggestion prompted by this feeling would be welcomed, or, at any rate, patiently listened to, with a view to future improvement, if, on careful consideration, this should be deemed possible, or advisable. In such instances as these, even if no practical good results, no harm is done. Any complaint made with the disinterested intention to do what is right, is almost sure to be accompanied with the resolve to make the best of existing conditions, if, when the effort has been made, they cannot be altered. This is a very different thing from idly spreading a feeling of

discontent that helps nobody and hinders many. 'It is better to fight for the good than to rail at the ill.' If every Nurse could carry out that injunction as heartily in practice as I am sure she will agree with it in theory, she would be all the happier herself, and a helpful example to her fellow-workers all the world over.

I cannot over-estimate the importance of Nurses cultivating these personal habits which will prove invaluable to them as women and Nurses to the very end of their lives. Those who aspire to become *real* Nurses cannot be too earnest and patient in their endeavours to overcome those failings which, if comparatively trivial in others, will detract from the value and influence of their work as Nurses more than can easily be said.

There is no work more directly affected by the character of the worker than Nursing. Every Nurse would do well to lay to heart words that were originally addressed to artists by the late Lord Leighton—

'Believe me, whatever of dignity, whatever of strength we have within us, will dignify and make strong the labours of our hands; whatever littleness degrades our spirit, will lessen them and drag them down. Whatever noble fire is in our hearts will burn also in our work; whatever purity is ours will chasten and exalt it; for as we are, so our work is; and what we sow in our lives that, beyond a doubt, we shall reap, for good or for ill, in the strengthening or defacing of whatever gifts have fallen to our lot.'

CHAPTER IV

Distinction between the work of Doctors and Nurses. THE diagnosis of the case and the laying down of a scientific plan of treatment are the work of the Doctor. The important work of a Nurse lies in carrying out that plan of treatment. The Doctor prescribes; for the most part it is left to the Nurse to carry out that prescription, and it is obvious that the welfare of the patient must depend upon the efficiency and mutual help of both Doctor and Nurse. Any misapprehension of the relationship they bear to each other; any aggressive tendencies on the part of the Nurse, and any want of confidence on the part of the Doctor, cannot but have a disadvantageous effect upon work which both are desirous of making as perfect as possible. Doctors can often do so little without Nurses that they are frequently the first to acknowledge that 'nearly everything depends upon the Nursing.' This is a familiar phrase in reference to many cases. On the other hand, it is only right, in deference to the far longer, wider, and to a great extent different range of studies of Doctors, that Nurses should help them to carry out whatever means they may think fit to adopt, by prompt and intelligent obedience.

It follows, therefore, that Nurses have to turn their attention to the best means of carrying out whatever details may be considered under the head of 'treatment.'

Treatment. It will be found helpful to recognize that treatment usually presents itself under one or more of three aspects:

First, it may be necessary to provide an antidote to any poison, and to remove all sources of harm.

Secondly, the chief consideration may be to place and

to keep the patient in the most favourable condition for self-cure.

Thirdly, it may be desirable to aid in treatment by drugs which experience or experiment has shown to be efficacious.*

Sometimes only one method of treatment may be employed, sometimes two, and frequently all three are brought into requisition; but it will be found that almost every case will come under one or more of these heads. I shall probably make my meaning more clear by one or two illustrations.

Suppose a case of typhoid fever to be due to the defective drainage or water of the locality in which the patient is living. Directly the Doctor has ascertained this, he would insist upon the removal of the patient to some place free from these pernicious influences, and thus, in the first place, he would carry out the treatment which I have defined under the first heading as 'removing all sources of harm.'

Without entering into all the details of Nursing typhoid fever, it is generally known that as a rule solid food is carefully withheld, that the patient is not allowed to sit up, much less to stand or walk about. Typhoid fever is not cured by carrying out the usual instructions on these points, but, by taking these precautions, the disease from which the patient is suffering is given the best chance of running a favourable course, and thus the treatment coming under the second heading, *i.e.* 'placing the patient in the most favourable condition for self-cure,' is carried out.

But the Doctor will probably consider it desirable 'to aid in treatment by drugs which experience or experiment has shown to be efficacious;' and thus all three methods would be combined for the successful treatment of the one case.

On the other hand, one form of treatment may be sufficient. Supposing a person to have swallowed a poison, it may be possible to administer the direct antidote to it, as strong coffee after opium poisoning, or an alkali if an acid poison has been taken. Or, if a patient working in a lead factory begins to show symptoms of lead-poisoning, he may

* Amongst much other valuable help, I am particularly and entirely indebted to the late Sir William Allchin for this system of arranging the subject.

regain health and strength by changing his occupation, so as to 'remove all sources of harm;' thus the treatment indicated under the first heading would prove sufficient. Then, if a man has broken his leg, the only thing that can be done is to place it in the most favourable position for self-cure, by procuring the necessary rest and position, so that Nature may perform her own cure without interruption. In this case, the treatment mentioned under the second heading is all that would be required. Again, there are circumstances in which different drugs may be considered likely to produce a beneficial effect upon the system without other remedies being necessary, so that the treatment referred to under the third heading is occasionally employed alone. However, this is more often used in combination with one or both of the other forms of treatment.

Treatment consists in the application of natural agents, such as rest, heat, cold, light, electricity, etc., adapted to the special needs of each particular case. It is under the second heading that most of a Nurse's work comes. To place and to keep the patient in the most favourable condition for self-cure, usually involves more Nursing than it appears to do at first sight.

Rest. 'Rest' is the natural agent that is constantly employed in various degrees as a means of treatment. Rest may be complete or comparative, and it may be applied to the entire body, as by absolute rest in bed, or locally, as applied to different parts of the body by means of splints, bandages, or other mechanical arrangements. A Nurse's duty in carrying out the treatment of absolute rest in bed includes bed-making for ordinary and helpless cases, with the washing and other attentions needed for such patients as are unable or forbidden to help themselves. I propose to deal first with the details involved in the Nursing of a case where the order of complete rest in bed has been given.

First, with regard to bedsteads.

Bedsteads. The superiority of iron or brass over every species of wooden bedsteads is so universally acknowledged, that I need not do more than allude to the fact.

Size, shape, and kind.

For nursing the sick it is essential that bedsteads should not be too wide. This is an important consideration, and one that is frequently overlooked in Private Nursing. It is impossible to move the patient, to change the sheets, or to attend to a helpless case with any degree of comfort if the bed is too wide. If there is an idea of affording the patient relief by changing him from side to side, this plan can be executed infinitely better by means of two smaller bedsteads that can be put next each other, for the purpose of lifting a patient to a fresh place. The bed which he has just vacated can then be moved away without disturbing him, and the Nurse remains able to get at her patient in all directions in a manner that will greatly contribute to his comfort.

In hospitals, the size, shape, and kind of bedstead will be settled by the authorities ; but may I put in here a plea for high beds ? Ours at the 'London' are twenty-seven inches high (without the mattress), to the great relief of our Nurses, who used to suffer much from the stooping necessary in attending to patients in low beds. In Private Nursing, a Nurse's knowledge and experience is often of value on these points, and all Trained Nurses will find that it is well to have studied them. For patients who are able to get in and out of bed, it will fatigue them less if the bedstead is no higher than a sofa ; but for cases confined to bed a high bedstead, as I have said, is far less tiring for the Nurse, and does not affect the comfort of the patient in any way.

Bedsteads should never be placed with one side against a wall, except for the purpose of keeping a delirious patient in bed, because such an arrangement materially adds to the difficulty of attending to the patient's wants. Nothing can be cleaner or nicer than the chain spring bedstead. The spring should fit into iron, not wood. That, with a hair mattress, is the best arrangement out of many good ones for all ordinary cases.

Hospital bedsteads should never have foot-pieces. In surgical wards it is almost impossible to use them, they so interfere with a convenient position for putting on splints, dressings, and bandages. They are less objectionable in

medical wards ; but even there it is more difficult to make the beds look neat with them.

In surgical and accident wards the head-piece of the bedstead should be movable, so that it can be lifted out of the way if the Surgeon wishes the patient to have an anæsthetic administered without being moved from the bed. Bedsteads made in this fashion look exactly the same as the others, and it is desirable to have them in medical wards also. The removal of the headpiece of the bedstead enables heads to be washed with greater facility, and is an advantage for other purposes.

Bedsteads for the sick should have strong castors that will run smoothly and enable the bed to be moved without jerking the patient, or making unnecessary noise. It is noteworthy that rather a large pattern of castor will be found more satisfactory in wear than a small one. Castors are made of various materials and sizes, and improvements on old-fashioned patterns are constantly being introduced.

‘**Bed raisers.**’ ‘Skeffington Inclinator’ are used for abdominal cases to raise the patient in the ‘Fowler’ position.

The apparatus consists of the Skeffington mattress, which is placed under the ordinary hair mattress. It is difficult to place with the patient in bed, and can be done most satisfactorily beforehand. The Skeffington mattress is pulled up by means of a galvanized wire and pulley, hooked on to a plug in the wall. The apparatus answers the special purpose well, and the patient can easily be pulled up or down as required.

Another form of bed raiser which is cheaper than the Skeffington ‘Inclinator,’ and is also used at the London Hospital, is satisfactory in every respect. It consists of two pieces, one for the head and one for the foot of the bedstead, and is made of Birch wood.

The tops of the pieces are prepared to fit under the angle iron frame of the bedstead.

Each post of the pieces is fitted with a sliding collar secured to the post by means of a thumbscrew, and attached to the lower rail of both head and foot by sliding hooks, tightened by fly nuts.

I would suggest that bedsteads for which these simple bed raisers are needed, should be seen by the maker previous to their being made, to ensure the apparatus fitting exactly.

If an emergency arises and no proper apparatus is at hand, the head of the bedstead can be raised on two chairs. If this rough and ready method has to be resorted to, the bedstead should be carefully tied to the chairs to prevent slipping.

**Water beds
and water
pillows.**

Sometimes water beds are ordered, and they are extremely useful in cases where pressure must be specially avoided. When a Nurse has to prepare a water bed, she should remember it must not be too full, nor quite cold. A blanket must be placed on it. No pins—not even safety pins—must be employed near water beds or water pillows as one prick renders them useless, and when they are perforated they cannot be repaired. If it is found most convenient to nearly fill it with cold water, add a few jugs of hot water, that there may be no feeling of chill when the patient is placed on it. The same rule applies to the filling of water pillows. Water beds are not very popular; the patients frequently complain of a feeling of ‘sea-sickness.’

A spring bed, with a hair mattress and a square water pillow, for all ordinary cases, is generally the most conducive to comfort, if the choice rests with the Nurse; but if the Doctor who is attending the patient prefers otherwise, of course his wishes must be carried out. I should say that, as a rule, circular water pillows are preferred in theory, and square water pillows in practice; but there, again, circumstances must decide, and many may differ from this opinion.

**Beds for
fractures.**

Beds for cases of fracture must be made firm with boards. Formerly straw palliasses were also in constant use. Fracture-boards of a special pattern are made to fit the London Hospital bedsteads, and can be securely placed under the chain spring, making it immovable, when a firm ‘fracture-bed’ is required. There are long fracture-boards made to keep the whole length of the bed absolutely immovable when that is necessary for patients suffering from a broken thigh,

or other cases requiring similar treatment—a 'fractured-femur bed' in hospital phraseology.

Fracture-boards. There are also shorter fracture-boards, which can be slipped under any portion of the bed desired, leaving the rest of the chain spring more or less pliable. These fracture-boards are found perfectly satisfactory. They are as comfortable as any arrangement adapted to the purpose can be, and they have the advantage of being easy to keep clean. Hospital Nurses like them for the additional reason that this means of turning an ordinary bedstead into a fracture-bed enables them to keep the beds in their ward of a uniform height. Although there is no special merit in this fact as far as the fracture-bed itself is concerned, it is a distinct, if comparatively insignificant, improvement in the general appearance of a hospital ward.

Advantages of curtains. I do not think that, with the shape of iron bedstead now in use in hospitals, any theory on the subject of ventilation being impeded by curtains, deserves sufficient importance to be seriously entertained, as opposed to the great advantage of the comparative privacy they afford, particularly in large wards where considerable publicity is unavoidable. It is a great comfort to many, not only to be able to put themselves partially out of sight, but to be able to shut out some of the distressing sights which occasionally surround them. Provided curtains are of a washing material, and changed often enough to ensure cleanliness, and that they are not arranged in any manner calculated to interfere with ventilation to any appreciable extent, my own opinion is strongly in favour of them, except, of course, for infectious cases. I am aware that many differ from this view, and it is merely a matter of opinion whether the advantages or disadvantages of allowing curtains to be used exceed each other. I believe them to be a very desirable comfort in the charge of a careful Nurse; but, in any case where there is the possibility of any kind of infection being harboured by them, I admit that a careless Nurse may allow curtains to become a positive source of danger.

It is not always possible for a Nurse to choose the position

of the bed for patients ; but those who wish to get trained with a view to employing their knowledge of Nursing outside the walls of a hospital, will find that the choice of all this mainly depends upon Nurses, and they will often be expected to understand and explain, not only *what* is best, but *why* it is best.

Position of bed. If the bed can be placed so that the patient can see out of the window, so much the better.

The light, if possible, should fall fully, though crossways, on the patient ; the Doctor always prefers it. Light can be shut out when needful, but it can never be made to come through a blank wall. Some people have an idea that it is orthodox to keep a sick-room rather dark. On the contrary, it is best to brighten up a ward or a sick-room with as much sunshine as circumstances permit, except when the nature of the case makes it necessary to deliberately darken it. Of course, a patient should not be allowed to lie with the sunshine streaming into his eyes ; but unobservant Nurses are apt to forget that the sun does not remain in the same position all day, and that, if it has been necessary to draw down the blind for a time, it may very soon be desirable to pull it up again. A dark-green blind is best for keeping out the light. Sunshine is almost a necessity, and has a definite and powerful influence for good, physically as well as morally.

If the patient is well enough to be moved out of bed while it is being made, care should be taken that he is warmly wrapped up with a blanket, and that his bare feet are not left touching the floor. In some cases a foot-warmer is desirable ; for though the bed will be made in a very few minutes, a Trained Nurse will be aware that that is no reason for letting her patient feel cold, or for permitting him to experience any other avoidable discomfort even during so short a time.

Bed-making. In hospitals bed-making should be the first work of the Day-Nurse and Probationer when they enter the ward in the morning. The Sister must always be asked if the patient may be allowed to move out of bed while it is being made, whenever there is the slightest doubt in the matter, because it is all-important

that some cases should not be allowed to put their feet to the ground. It requires two to make a bed properly when the patient is in it. It is easier to explain the best method of changing the sheets for a helpless patient, so that it may be thoroughly understood, by a practical illustration. This varies according to the case.

Changing the sheets of helpless patients. The great object to be borne in mind is saving the patient all unnecessary pain and fatigue. All the top bedclothes should be removed, except the sheet or one blanket, which must be retained as a covering. If the

patient can be with safety turned on his side, one person should hold him comfortably in that position, while the other rolls the under sheet, which is to be removed, close up to the patient, the whole length of the bed, and tucks the clean sheet in on that side, placing the remaining half of it rolled up close to the sheet that is about to be taken away. The patient should then be gently turned over on the other side, and held in that position by the person standing there, while the other promptly draws the sheet off the bed, pulling out and smoothly tucking in the clean sheet on that side also.

It is of extreme importance to guard against wrinkles and crumbs in the bed, and it requires no little care and ingenuity to do this with complete success. The tiniest rucks in the bedclothes are indescribably uncomfortable, and, moreover, are productive of bed-sores, when the skin is in a very sensitive condition. No sheets, blankets, pillows, nor indeed anything else, should ever be shaken *over* the patient's bed, but always *away* from it.

The clean top sheet must be placed over the patient before the one which has been retained as a covering has been withdrawn; and it should be remembered that there is no occasion to give the patient all sorts of suffocating sensations, by drawing sheet and blankets over his head until they are all gathered together, and the Nurse is ready to turn the clothes down at the top. If the blankets are so long that they need doubling back, this should be done generally at the bottom of the bed, and not so that the additional weight and warmth of bedclothes should lie across the

chest. But see that the bedclothes come up high enough for the patient's comfort and that this is not sacrificed to the idea of making all the beds in a ward look precisely alike. I mention these very small points because they are constantly neglected from sheer want of thought.

Arranging pillows. No absolute rule can be given for the arrangement of the pillows, though every one knows that a patient's comfort in bed largely depends upon their skilful adjustment. The principle to keep in view is that pillows are intended to support the patient in the position that he wishes or is able to adopt. The lower part of the back always needs supporting; the shoulders must have room to lean back, and the top pillow must be placed in such a way as to support the head, without either tilting it forward or obliging it to fall back. The arrangement of pillows and cushions is a very individual matter; and, with these general principles for guidance, only observation and experience can teach what is likely to suit each particular case. Nursing is supposed by some to consist mainly in that graceful task known as 'smoothing the pillow;' but, though we may smile at the familiar expression, we must not forget that it is distinctly refreshing to patients to have the pillows shaken up occasionally, and the cool side placed next the face. One word of warning in reference to shaking up pillows, which will not be found superfluous. Pillows should never be shaken *on the bed*. It is wholly unnecessary to shake up the patient at the same time; and though in many cases jerks might not be disturbing, they are always carefully to be avoided.

Draw-sheets and mackintoshes are managed in exactly the same way as the under sheet, but, of course, these can be changed in less time. It is not desirable to continue the use of a draw-sheet and mackintosh in a patient's bed when a Nurse perceives that it is no longer necessary.

There are some cases in which it is best to change the bottom sheet in the manner I have just described, except that the sheets should be rolled from the bottom towards the top of the bed instead of lengthways from side to side in the ordinary manner. In cases of fracture of the lower limbs, for instance, the sheets are usually changed by this

method. There is less risk of moving or interfering with the position of the injured part.

Every accident bed should be made up with a mackintosh and draw-sheet. Nurses should not wait for the mattress to be saturated before discovering that these are necessary. A blanket should never be put on the mattress under the patient unless it is specially ordered. 'It retains damp, and acts like a poultice,'* and is, consequently, likely to induce bedsores. When patients are ordered to lie between blankets, one should be placed *over* the bottom sheet, and the top sheet put over the blankets, and next the counterpane or check, so that the bed may be kept clean and look neat.

The top sheet should not be tucked in at the bottom of the bed, but folded neatly back—over the blankets in those cases where the bedclothes will have to be turned back in that way for the Surgeon, and back upon itself in those cases where the blankets can be tucked in at the bottom of the bed. It looks neater, and leaves the end smooth instead of crumpled.

When the bed is going to be made, a chair, or something suitable to throw the bedclothes over, should be placed near the bed for the purpose, and never under any circumstances should the bedclothes be thrown on the floor, where, of course, they would catch up dust and dirt. I should scarcely have thought it necessary to mention this, but that I have, on rare occasions, seen bedclothes left on the floor.

The sides or the ends of blankets should never be seen dangling below the check or counterpane. It looks untidy, and, moreover, they get dirty. The corners should be turned back over the pillows crossways, if they are too long.

In hospitals where linen checks are used,
Bed coverlets. they should be tidily pinned round the foot of the bed to keep them straight and smooth. Where thicker counterpanes are used, they should be folded in such a manner as to produce the same effect, but the lighter material is altogether preferable. It is generally

* Miss Florence Nightingale's 'Notes on Nursing.' Amongst others, the short chapter on 'Beds and Bedding' may be studied with advantage to all interested in this subject.

considered that scarlet blankets form the best sort of coverlets for the use of the sick. It is popularly supposed that they help to keep away fleas, but I cannot vouch for the truth of this supposition! Scarlet coverlets look cheerful in a ward, but the brightness of the colour may prove a little trying to some sick people. A sheet placed over the blankets instead of a counterpane makes a clean, light coverlet for a private case, though it would not be an ideal arrangement for rows of beds in a hospital ward.

If a patient is restless, a Nurse should notice whether his bedclothes are too heavy. Sometimes that makes all the difference to a weak patient, and it is one of the points to which a good Nurse must pay attention when she finds that a patient is uncomfortable and tossing about without knowing why.

It may be as well to point out that in uncovering a patient for the Doctor, a trained Nurse must avoid exposing him more than is necessary. For instance, when the feet or legs are to be examined, the bedclothes should be turned back from the foot.

If the Doctor wishes a patient to stand or to walk a few steps, as is sometimes necessary, the Nurse must see that some thick, woollen material is placed upon the floor for him to tread upon. When a patient has to be assisted out of bed for this purpose, it is a good plan for the Nurse to reverse the ordinary way of putting on the dressing-gown, fastening it behind. It is easier for the patient to get it on in this manner, and it saves any unnecessary exposure.

An observant Nurse can assist both Doctor and patient by supporting intelligently the limb a Doctor may wish to examine in as easy a position as circumstances may permit. It is undesirable to give a weak patient the fatigue of trying to place a limb unaided in the required position, unless the Doctor desires the patient to be left alone. Nurses are apt to forget that the weakness from which many patients suffer makes an apparently small exertion an effort to them, and such patients like the feeling that the Nurse understands and helps them. I have known a Doctor much guided in his opinion as to whether a Nurse could be considered *trained* or not, simply by the manner in which she supported

patients on such occasions, deeming that the want of these little attentions on the part of the Nurse showed her to be unobservant, if not uninterested and unsympathetic.

For examination of the chest or abdomen the clothes are, of course, turned down from the top, or it is a good plan to fold back the check and blankets, and leave the top sheet over the patient as a light covering which the doctor can move at his convenience without making the patient uncomfortable.

**Special
bed for
Infusion.**

Some Surgeons prefer, in cases where continuous infusion is ordered, that the bed should be specially made in such a way as to facilitate the removal of the bedclothes in the middle. Over the bottom sheet the Nurse usually puts a mackintosh and draw-sheet, but some Surgeons prefer a draw-sheet and no mackintosh, and it is always well to dispense with the mackintosh when possible. There should be two soft pillows for the patient's head and shoulders, and one firm pillow to support the knees, thus to relieve all strain from the abdominal muscles. There should be a square water pillow, just warm, and not filled too full, placed ready for the patient's back. The upper bedclothes are made to open in the middle. To do this neatly, two top sheets and two top blankets are required. These should be doubled, and placed so that they meet in the middle of the bed. In this way, all unnecessary exposure of the patient is avoided, the patient being kept warm and covered up more than is otherwise possible. The check, or other light counterpane, should be put on over this in the usual way, and this, of course, has to be doubled back when the bedclothes have to be moved aside in the centre. In some hospitals a cradle is used as a matter of routine for these cases, and in others it is only employed if the patient is suffering from peritonitis, or finds the weight of the bedclothes an inconvenience.

In obstetric cases it is generally best to fold the clothes back from the side of the bed.

There is no need to expose the patient in making or re-making the bed—a process that is so often necessary with those delirious patients who are possessed with an unceasing

desire to get up. A blanket should be left over the patient while the sheet and other things are put on, and then it can easily be drawn out and put on properly afterwards.

**Airing of
patients'
linen.**

I must not conclude this subject without a word on the importance of airing the bed and body linen of patients, not only before it is used, but when it has been saturated with moisture from the skin, which is very unwholesome.

In hospitals there is not generally a very large supply of body linen for the patients, but if it is a necessity to put on soiled things again, at least they can be thoroughly aired before replacing them, and made as dry and wholesome as the circumstances will permit.

The comfort, and moreover the actual benefit, a patient will derive from having a sheet or blanket which has grown moist, cold, and offensive with emanations from the skin, replaced with a dry, warm one, is considerable.

A Nurse must always keep the importance of these changes in her mind, and not forget, for instance, that when a patient's shirt is removed for the purpose of washing him, it had better be airing by the fire ready to put on warm and dry, than lying on the bed to be replaced in the same condition as it was taken off. It is not well to allow any airing of clothes, clean or otherwise, in the patient's room when it can be avoided.

In children's wards their bedgowns and jackets are changed for the night and the day, because it is so much more wholesome ; and whenever there is an opportunity of persuading any other patients to do the same, there can be no doubt it is best for them.

CHAPTER V

Washing of patients. WASHING hospital patients is rather a formidable undertaking when they are first brought in, and ablutions are generally quite indispensable. Injured limbs must be very gently handled, if they are able to be cleansed at all, and mackintoshes must be used to prevent the sheets getting damp.

All patients who need to be washed all over in bed must first be wrapped in a washing blanket, *i.e.* the blanket must be placed under and all round them. Some careless Nurses only place the blanket *over* the patient, which is obviously useless and indicates slovenly work.

The Nurse of a ward must see that the feet of all the patients are washed at least once or twice a week—of course, oftener, if possible; and it may be done without running any risk for the patient, provided the feet are properly dried and not allowed to remain cold.

In the daily washing of those patients who are incapable of washing themselves, only the part that is being washed should be uncovered at one time, and a patient should not be kept with chest and arms exposed while the face is being washed. Patients should not be left with the water drying on them, while an incompetent Nurse runs off to fetch a towel. It is so miserable to be washed instead of being able to wash one's self, that the process should be made as little disagreeable as possible. A Nurse must get everything that is wanted ready before she begins, and then wash her patient quickly and gently, without leaving off in the middle, if she can help it; she must take care not to wet the sheet or nightdress here and there, so as to leave her patient damp and uncomfortable. It will be a distinct pleasure and refreshment to some patients to have their

face and hands sponged occasionally, if it is skilfully done without any wearisome fuss or preparation. It must never be forgotten that washing or being washed is sometimes a great effort to those in a weak condition, and, I am afraid, it is a new experience to many hospital patients.

The habit of washing several patients in one water is so exceedingly dirty, that I should hardly have supposed any Nurse would have dreamt of doing such a thing did I not know to the contrary. Children are victimized most in this way, partly, I suppose, because the number to wash makes it a serious piece of business in their wards, and partly because they cannot object to it as adult patients would. We have only to think how utterly distasteful it would be to use water in which another *healthy* person had previously washed, to imagine how extremely objectionable it is for sick people, suffering from various diseases, to be cleansed, if we can call it so, in the same water. Such a proceeding is not without risk either, and it is inexcusable that laziness and the slovenly desire on the part of a Nurse to save herself trouble, should prevent her taking proper care of those dependent upon her.

**Attending
to patients'
mouths.**

When a patient is too weak to clean his own teeth, a Nurse must make it her special care to keep his teeth and mouth in a nice condition. She should cover an ordinary pair of dressing forceps with cotton wool, and dip them in warm water, passing them lightly and carefully over the teeth and gums. A little glycerine and lemon juice forms a pleasant and satisfactory mouth-wash in many cases. Patients may easily suffer a great deal of unnecessary discomfort if a Nurse is not both attentive and skilful in bestowing this little attention.

I have not said a word about the extreme importance of keeping patients perfectly clean, literally, from the tops of their heads to the soles of their feet, because I may take it for granted that every one understands that it is a Nurse's first duty to pay constant attention to this essential of her patient's health and comfort.

It frequently happens that hospital patients are brought to the wards with very dirty heads. This is not only the

case with those who are habitually dirty in their personal habits. Often respectable poor people, who, as a rule, may be justified in priding themselves on their comparative cleanliness, if they had not been disabled by illness, in poor surroundings, with no one to take care of them, are brought to the hospital with heads in a condition which demands immediate attention from the Nurse. There are cases in which there is no remedy but sacrificing the patient's hair; but this must be avoided, if possible, and a Nurse must never cut off the patient's hair without orders to do so.

The patient's towel, or, better still, as in our wards, a pink mackintosh cape, kept for the purpose must be placed round the patient's shoulders and over the sheet and pillows, before the process of cleaning the head begins.

**Cleaning
of dirty
heads.**

In the first instance, it is best to thoroughly wash the patient's hair with warm water, to which soda and soft soap or a shampoo powder have been added. Then it should be combed through with what is known as a small-tooth comb (if it can be got sufficiently free from tangle). The head and hair should be effectually dried before saturating it with carbolic lotion, 1-40. Smear the upper part of the forehead and the tops of the ears with vaseline or some other greasy substance before wrapping the head round with a soft old towel or piece of lint or linen, wrung out of the same solution, and the whole should be covered with pink mackintosh. This 'carbolic cap,' as it is called, should be left on for several hours. When it is removed, the hair must be well combed again with a fine-tooth comb. As a rule, this treatment will have destroyed the pediculi; but the 'cap' must be renewed once or twice if necessary. When heads are in this deplorable state they need careful attention at least twice a day until they are in a more satisfactory condition. It takes longer still to get rid of the nits, or eggs, even with active treatment. They are fastened firmly to the hairs with a sort of gelatinous substance. If some kind of spirit is used daily (methylated spirit, for instance) to sponge the hair, it dissolves the gelatine and loosens the nit, so that frequent combing

with a small-tooth comb gradually makes the head quite clean.

Stavesacre's ointment is a very good application to use for dirty heads. A lotion made of two parts of perchloride of mercury, 1-1000, and one part of olive oil, is also found a satisfactory remedy.

**Starch
poultice.**

In some cases, where the scalp has become very sore from prolonged neglect, it is necessary to soften the scabs before they can be removed, and before the remedies prescribed can be effectually applied. A starch poultice is an excellent application for such cases. It should be made by mixing a table-spoonful of starch with enough cold water to make it smooth. Then boiling water should be added, the mixture being stirred all the time, until it becomes a thick paste. This paste should then be spread on some soft old linen, and the poultice be made about half an inch thick. A little olive oil should be smeared over the surface to prevent sticking, and the poultice must be applied to the head as soon as it is cool enough for the purpose. Several poultices may have to be applied before the scabs are sufficiently softened to come off easily; but it is a clean, effectual, and comparatively comfortable remedy.

In hospital wards it is a Nurse's duty not only to lose no time in getting dirty heads in a proper condition as soon as possible, by keeping up active treatment while it is necessary, but she must also be careful to see that the heads of all her patients are kept clean. Probationers must share this duty for the sake of gaining the necessary experience for themselves, and because it is right that they should take a practical share in these regular routine duties. But the cleaning of the patients' heads must never be handed entirely over to the Probationers. It is a good plan for the Staff Nurse of the ward to do half the patients' heads herself one day, and the other half on the following day, so that she has the opportunity of judging if the Probationer has done her share of this work thoroughly. This plan should ensure that no one leaves a ward with a head in a condition that demands an apology from every Nurse who has had anything to do with the patient.

Bed-pans, etc. There is another very important point in which patients kept wholly at rest in bed are dependent upon their Nurse. I mean the skilful placing and removal of bed-pans and other utensils, and the care necessary for their perfect cleanliness and immediate removal from the wards after use. I need scarcely point out that to keep the air of a sick-room, and still more of a ward, as fresh as it should be, great attention must be paid to the *immediate* removal of all excretions and other offensive matters.

The use of any chamber utensil without a lid is quite inexcusable, and even with a lid it must, in no circumstances, be allowed to remain for a moment in a ward after the patient has finished with it. Those who have any doubt in their minds as to the absolute necessity of this rule need only look at the inside of the lid when it has been in use for a few minutes. They will find it covered with condensed offensive moisture, which, if the lid had not been there, must have passed into the air, perceptibly poisoning it. It is impossible to be too particular about this rule. It is very important for all concerned, as the chief risk of Nurses taking the infection from some diseases lies in this direction. It is more considerate for the feelings of the patient and the others in the ward, and it is essential for the ventilation. In many cases it is best to have some disinfectant at the bottom of the utensil before it is used, and in almost all cases a little clean water should be put there. It absorbs smell, and enables the vessel to be cleaned with greater facility.

There can be no doubt that earthenware is the cleanest material for covers for these utensils. The disadvantage of them is that they are rather noisy, unless gently handled, and they are liable to breakage. But they are certainly best, because earthenware does not become saturated with moisture as unglazed wood is apt to do. The lids should be kept as scrupulously clean as the earthenware utensils themselves, and no really good Nurse will ever be unmindful of these details, or think them beneath her attention. Great care must always be taken to keep the urine bottles also in a condition of perfect cleanliness. It is only those

who have not thoroughly understood the subject who think 'it does not matter.'

In well-managed and efficiently nursed wards, no chambers even when clean, should ever be kept under the patient's bed. The patient's comfort or the utility of any arrangement must not be sacrificed merely for the sake of appearances; but, on the other hand, it is a pity to sacrifice appearances more than is absolutely necessary. Besides, keeping unsightly articles about the ward, even when they are in a sanitary condition, increases the risk that they may not be removed with the same promptitude when they have been used.

Saving of specimens. It is the work of the Night Nurse or Probationer to attend to any special instructions in reference to individual cases in respect to the saving or measurement of urine or fæces before she goes off duty, and this rule prevents any difficulty or mistakes in getting a clear report left for the Medical Officer. It is the duty both of the Day and Night Staff of Nurses to leave all details in this connection carefully recorded, and to see that the utensils are left perfectly clean for each other.

Under no circumstances, day or night, should bed-pans or slipper bed-pans be allowed to remain in the wards. All Nurses must take great pains to be absolutely trustworthy in these matters. The necessary care involves constant trouble, but that must never deter a Trained Nurse from being scrupulously careful in regard to them.

The bed-pan should be warmed, in cases where the patient is very sensitive to chill, by placing a little warm water in it prior to using it. The Nurse must remember to wipe the edges afterwards and make sure that the utensil is not too hot. The bed-pan should be oiled for those cases where there is much perspiration, as in rheumatic fever, for instance, by passing a greasy rag over that part of it which comes in contact with the patient's skin. So much real pain and discomfort can be spared to patients by a skilful Nurse, who is painstaking in these respects.

Placing of bed-pans. For patients who are able to raise themselves a little, a Nurse should take the utensil in her right hand, and put her left hand gently

and firmly under the patient's back, with the palm next to the patient's skin. If the patient is weak, it will give a sensation of support, and with a little practice this alone will enable a Nurse to know whether the vessel is in its proper position. It is so hard upon the patients, in their weakness, to be left in a damp, uncomfortable condition through the ignorance or clumsy carelessness of the person who ought to be their greatest help. If patients cannot raise themselves in the least, a Nurse must always ask another person to help her in placing them on and taking them off the bed-pan, and not attempt to push it in, or to drag it out by main force. In the delicate condition in which the skin of such patients is certain to be, this alone is sufficient to induce a bed-sore. It is no proof of a Nurse's skill to do badly herself what it takes two people to do well, and even Private Nurses can generally procure the slight assistance necessary for these occasions.

If a bed-sore exists, and the dressings are soiled and have to be removed at the same time as the bed-pan, a Nurse must take them up with her forceps, and burn them at once—not leave them to stop up pipes, as is often too carelessly done.

The constant keeping of patients dry and clean is most important for many reasons, whether they are in a condition to call attention to their wants or not. This is one of the most disagreeable duties which fall to a Nurse's share, and which, for that reason, demands the utmost delicacy and kindness from her. The cultivation of a nice habit in this respect is invaluable, and will help a sensible Nurse to get through trying work creditably. There have been too many Nurses careless of the distress they may cause their patients by keeping them waiting for the assistance of which they are in need. The only comment I can make upon this is the very obvious one that the woman who *could* deliberately do such a thing must indeed have mistaken her vocation.

It must never be that a Nurse gives a patient one more thing to bear. She is there to lessen the patient's sufferings—never, however inadvertently, to increase them. The fact of being dependent on a Nurse for attentions of this

kind must always be a source of distress to a patient, and especially to a male patient. Nurses should grasp this fact, and take special pains to make the patient feel as easy as possible over these little matters. It helps a patient for a Nurse to take the need for these attentions in a calm, prompt, matter-of-course manner. Nurses are not always as thoughtful about this as they should be, and beginners especially fail to think enough of the patient's feelings in needing these attentions. A frown on the Nurse's face will increase the discomfort a patient has to go through, and, if a Nurse realizes that even the nicest way of performing this Nursing duty cannot prevent the necessity for it being distasteful to the patient himself, it will ensure gentle consideration on her part. These little trials, which appear quite insignificant to the Nurse, are real troubles to sensitive patients. There are cases in which the utmost skill on the part of the Nurse cannot prevent its being painful to the patient to be moved; but, even when there is no actual pain attached, it is always pitiable to need these attentions, and, however trying the patient may be, the Nurse must remember that his condition justly claims her utmost sympathy.

Risk of When a patient has to be kept wholly at
bed-sores. rest in bed, a Nurse must remember *from the very first* the risk of bed-sores, and she should bear in mind that no trouble and labour is lost which has the happy result of preventing their occurrence.

Bed-sores are the terror of every good Nurse, and with sufficient reason. She is aware, in the first place, of the misery they will prove to her patient, and, in the second place, in nine cases out of ten they are the result of carelessness and neglect, or, at any rate, they occur from the want of sufficient care on the part of the Nurse. There are cases in which no amount of care can prevent bed-sores, but these are comparatively rare, and it is well for the Nurse to consider them so.

Bed-sores are the result of pressure; therefore, a Nurse's object is to relieve pressure on all the more prominent and sensitive parts. The lower part of the back and the hip joints need, as a rule, the most constant care and watchfulness; but, in certain conditions, bed-sores will also occur

on the heels, elbows, knees, and ankles, if these joints are in such a position as to come in close contact with the bed or pillows.

The next thing to avoid is moisture, for that is the second condition that will speedily induce bed-sores unless it is very carefully guarded against. Moisture, when combined with pressure, materially increases the tendency to bed-sores.

**Care of
patient's
back.**

It is essential, therefore, to keep the patient as dry as possible. If this is not done, other means are useless. In cases where the patient is lying in one position long, Nurses must be particularly careful about this, and should use all their ingenuity in difficult cases to attain the all-important object of keeping the patient perfectly dry. No Trained Nurse will wait until some signs of redness appear before she begins taking the necessary precautions. The parts must be thoroughly cleansed with soap and water, and afterwards powdered freely with zinc powder or starch. It is a good plan, in many cases, to rub in a mixture of olive oil and some sort of spirit over the tender parts for at least five minutes two or three times a day. The friction is of great service as well as the ingredients rubbed in. Where the nature of the case makes it impossible to maintain more than comparative dryness, it is especially useful to employ some greasy application. Water rolls off the greasy surface, and neither moistens nor irritates it to the same extent. In ordinary cases spirit alone is extremely useful, and should be freely rubbed and allowed to dry into the parts *when the skin is not broken*. When it is broken, a Nurse must continue to rub the neighbouring parts with spirit, carefully avoiding the sore place. Some Nurses forget to continue this when a sore has once begun, but that is a great mistake.

**How to
treat bed-
sores.**

If the skin breaks a very little, white of egg is useful to prevent its getting worse, as it forms a sort of healing glaze over the sore. Dermatol powder, placed exactly on the sore, is also a useful remedy. This is an expensive application and must be used with care.

In some cases a good result is obtained by dusting the sensitive parts with zinc powder. On the other hand, some greasy application must be freely used instead in those cases where the constant difficulty is to guard against the irritating effect of moisture.

To relieve pressure.

Some Doctors order amadou plaster to be applied with a hole cut in the centre the size of the sore, to relieve it of all pressure; but, for the most part, Nurses find that this has a tendency to make the surrounding parts tender. The principle on which this order is given is excellent, but small, soft, circular pillows, with a hole in the centre, are the best means of carrying it out. These pillows are most useful in protecting sores when they exist, or in protecting the place where they are likely to occur. In many cases a Nurse will find this arrangement desirable. If it is one of those difficult cases where the dressings get constantly soiled, she must make a good supply of these little pillows, burning them directly they are soiled, for they must on no account be dried and used again.

A Nurse must not put her own opinion against any definite instructions she may receive from the Doctor. But Doctors are very dependent on the skilful management of Nurses as far as bed-sores are concerned, and few would resent a tactful suggestion of this kind, if the Nurse had given no grounds, in other ways, for being considered fussy or interfering.

A Nurse must never forget the possibility, and in many cases the probability, of bed-sores. She must use every effort to prevent them, and remember that no other means of prevention is so effectual or so absolutely necessary as *constantly renewed* cleanliness. It is sometimes a little disheartening to a Nurse to find that just as she has done everything in her power to make her patient thoroughly comfortable, the whole process has to be immediately repeated. But an experienced Nurse will never allow herself to question the necessity for this rule. A Nurse who habitually considers her patient's feelings first will be tender enough to remember that this immediate repetition is a trial to her poor patient also, and this fact will enable her

to set to work cheerfully, and not to make a trouble of what cannot be helped. If, in spite of all the care taken, signs of an approaching bed-sore become evident, these must be reported and shown to the Doctor *at the earliest opportunity*. Nothing can excuse any neglect of this rule, and no fear of blame, whether just or otherwise, must deter a Nurse from carrying out this obvious duty. The condition of the bed-sore is sometimes an index to a patient's general condition in other respects. Deep, sloughing bed-sores may prove a source of serious, septic poisoning to the patient, and it is of vital importance that the prescribed treatment is efficiently carried out. Charcoal poultices, linseed meal poultices made with coal-tar lotion, or lysol fomentations are the cleansing remedies most frequently employed.

Dressing of bed-sores. Many Doctors leave the treatment of mild bed-sores in the Nurse's hands, but some prefer to prescribe for them themselves. A Nurse must remember that the Doctor has an unquestionable right to do this if he chooses, as he has to give directions concerning every other detail connected with his patient's welfare and comfort. It is 'touchy' and a little wanting in dignity on the part of a Nurse to jump at the conclusion that if the Doctor gives precise directions on these points it necessarily indicates a want of confidence in herself. The actual dressing of bed-sores nearly always falls to the Nurse's share. The choice of suitable dressings must depend on the Doctor's orders and on the condition of the sore. Zinc dressing, boracic, carbolic oil, iodoform, gall ointment, tincture of benzoine, nitrate of silver, Balsam of Peru, and red lotion, are all suitable for various cases. Any permissible change in the patient's position is, of course, a help in the avoidance of bed-sores, and in promoting their cure when they exist.

Water pillows are desirable *from the very first* for cases where bed-sores are to be anticipated; paralyzed and dropsy cases should invariably be supplied with them. In placing the water pillow under a patient a Nurse must see that the upper ridge of it is just covered by one of the ordinary bed pillows or it will cause discomfort.

A Nurse often has a little difficulty at first in making her patients and their friends realize the importance of taking active measures to prevent bed-sores, especially if the movement involved to do this causes the patient distress. A Trained Nurse, who will have seen, during her hospital experience, bed-sores in every stage of development, on the admission of poor patients who have been previously neglected in this respect, and who, therefore, knows how the sufferings of patients who are very ill have been increased by bed-sores, must persevere in her efforts to make her patients understand the importance of the question, before they learn it by sad personal experience. If necessary, she must not hesitate to appeal for the Doctor's help in the matter, for he, like the Nurse, will realize the necessity of sparing the patient future suffering, which will inevitably occur unless due precaution is exercised.

**Hot-water
tins.**

Of all the times when the hot-water tins, bottles or bags should be refilled, as a matter of daily routine, the early morning is, perhaps, the most important, and I am afraid that this is the time when many Nurses are careless about attending to them. The vital powers of the patients are at their lowest, and nearly all bad cases are worse then than in the evening, when they are, generally speaking, more inclined to be warm and comfortable. It is bad management for a Nurse to think that the fact of her being busy is any excuse for her patients being cold.

When a Nurse has a large ward full of patients under her care, it is not to be expected that she can stay to fill every hot bottle separately ; indeed, it would be bad management to do so. The right plan is for Night Nurses to refill hot-water bottles in the very early morning. When Day Nurses come on duty and make the beds, the bottle then serves as a foot-stool for such patients as may be able to move from their beds while they are being made, and there will be no need for the foot-warmers to be attended to again until the wards are all straight, and there is leisure to see after them. Moreover, the patients will have had the benefit of them exactly when they were most needed, instead of having to wait until ' Nurse has time.'

**Hot-water
bottle-
covers.**

There are one or two points in connection with hot-water bottles that I should like to impress upon all Nurses. They must always take care that some woollen covering of sufficient thickness is placed between the patient and the surface of the hot-water bottle. Special covers should always be made for them of Bavarian flannel, or some other thick woollen material. If the edges are bound with red, or prettily worked in any suitable fashion, they look nice in the bed. The contact with a hot substance makes the skin tender, and is often startling and uncomfortable to the patient if he is awake, and will rouse him suddenly if he happens to be asleep. A perfect Nurse should be able to take the hot-water bottle in and out of the bed without waking her patient.

There is serious risk of raising scalds or blisters on paralyzed and dropsy cases, especially the former, by bottles that would not be hot enough to affect other cases in the same way. The newest of Nurses must endeavour to remember this, because she may any day be told to place plenty of hot-water bottles in the bed with cases of this kind, and it would be terribly distressing for her to find that, through ignorance of this peculiarity, she had inadvertently burnt her patient. He might not be conscious of the pain, or not able to call attention to it ; but any wounds in these cases are very slow to heal, and it is necessary to take extreme care to avoid them.

CHAPTER VI

Feeding patients.

WHEN a Nurse is carrying out the treatment of complete rest in bed, it is essential that the patient's food should receive very special attention from her. A Nurse will be expected both to study and to give an account of her patient's appetite, and to be careful that the nourishment supplied is given *regularly*, punctually, and in as inviting a form as it can possibly be.

Nurses will be more convinced that it is not easy to exaggerate the importance of food, if I quote the teaching of that great Physician, the late Dr. Sutton :—

‘By food we can renew and redden the blood. By food we can strengthen the breathing and circulation. With varied food, fresh from the earth, we can convey into the body the stored light-energy of the heavens.’

Food is absolutely necessary to keep the body in a good condition of health. It is needed to keep up heat, as well as to maintain muscular and brain power. If a person is starved, he loses not only weight but vitality, the capability of doing physical or mental work, and the temperature falls. The body kept without food is in somewhat the same condition as a fire just kept alight with a scanty supply of fuel. When people are ill, food is even more essential, but the necessary nourishment must be supplied to them in a form suitable to their special requirements for the time being. It must be both digestible and nutritious. When the body is weak and ill, food in a form that could be taken in health is of no service, because it cannot be used. Food,

to be of use, must be brought into such a condition that it can be absorbed into the blood, that is, digested. Food to be nutritious must be digestible.

**Sick-room
cookery
for Nurses.** The object of cooking is to increase the digestibility of substances. Sometimes this object is defeated by the ignorant and inefficient manner in which the cooking is done.

A knowledge of sick-room cookery is invaluable to Nurses, and I consider that no Training School for Nurses should be without its sick-room cookery accommodation and teaching. The teaching must not only include the making of gruel, arrowroot, beef-tea, and other liquid diets associated with invalids, but the skilful preparation of a variety of food calculated to tempt the capricious appetites of patients during the various stages of convalescence. Only experience can teach Nurses how very much the progress of their patient may be influenced by the Nurse's efficiency in the matter of preparing and administering food.

**Feeding at
night.** The desirability of giving patients plenty of nourishment, by night as well as by day, is seldom appreciated, except perhaps in cases of severe illness. But this is really a very important matter that must never be lost sight of by a Trained Nurse. Unless the patient is actually asleep, food should be supplied about as frequently as it would be deemed necessary during the day. A Nurse must take care to have something suitable ready to give the patient when he wakes. Sickness alters a patient's feeling with regard to a routine hour for breakfast, and ordinary meal-times seldom prove best adapted to the needs of those who are temporarily removed from the ordinary occupations of their everyday life.

**Cleanliness
in manner
of serving
food.** Whatever diet may be ordered by the Doctor, it mainly depends upon the Nurse whether it is taken by the patient or not. Exquisite cleanliness is essential in the manner of serving. There must be no 'dripping' from the feeder, glass, cup, or spoon, as the case may be. An unstained cloth must be on the table or tray. A Nurse must notice that nothing is spilt in the saucer, and

be careful that the vessel the patient is about to drink out of is not filled too full.

A great deal will depend upon the Nurse bringing fresh into the patient's room whatever food he is required to take. She must not leave it for him to see and smell until he turns against it altogether. When liquid nourishment has to be administered at frequent intervals, and a jug of beef-tea, milk, lemonade, barley water, etc., may be needed close at hand, it is nice to see a clean square of paper put over the top of the jug, if it has no lid, to keep the dust out. The Nurse must be careful that the vessel in which each fresh drink is administered is absolutely clean and ready for the purpose. Many Nurses who consider themselves 'trained' are unpardonably careless in this respect. They put back the glass, cup, or feeder which has last been used, and either content themselves with partially refilling it on the next occasion, or by going away to wash it at the moment when it is required. There is certain to be an uninviting rim, suggestive of the last supply, round the vessel, if it has not been washed, which will probably catch the patient's eye, and may possibly give him a distaste for the contents, whether he complains about it or not. These trifles, which appear almost too small to mention, have considerable influence on the patient's comfort, and are apt to assume an importance in the eyes of the invalid altogether out of proportion to the real significance of the occasion. It is the 'finish' which characterizes little arrangements of this kind that indicates the standard of training to which a Nurse may lay claim.

If the food is intended to be served hot, a Nurse must take care that it *is* hot, and not luke-warm. It is bad management if she has to run off to fetch a knife or fork, or some other trifle, such as salt, for instance, while the patient is waiting. Many a time a patient's inclination is simply to find some excuse to escape the effort of eating the meal that has been prepared for him. If there is a spot on the tray-cloth, or any detail which tends to make the whole uninviting, this may be the sole cause for a patient refusing what otherwise he might have been persuaded to take.

An observant Nurse will soon discover the individual likes

and dislikes of a patient with regard to food without bothering him with too many questions on the subject. Sometimes patients get rather interested in their next meal, when they are making a good recovery and appetite is returning; a judicious Nurse will be guided accordingly. It is impossible to have one hard and fast rule on matters of this kind. The best Nurse is the one who most readily adapts herself to the needs of the particular case.

There is great scope for cultivating the art of Nursing when a Nurse, instead of getting definite instructions as to what her patient may or may not eat and drink is told to 'feed him up in every possible way.'

Punctuality in serving food to patients. Punctuality in administering nourishment is always important. If a patient is not seriously ill, it adds to his comfort. In cases of acute illness the ultimate result may be considerably influenced by attention to this point. In doubtful cases a Nurse should ascertain the Doctor's wishes on the subject of waking her patient to give him food. In most instances, undisturbed sleep is of more importance than food. But, in others, patients would sink from exhaustion if allowed to sleep on without nourishment. A quiet, skilful Nurse, in whom a patient has grown to feel a restful confidence, will often be able to rouse a patient sufficiently for him to drink the required nourishment without completely waking him up. It is of infinite value to be able to do this in such critical cases as those to which I refer. This is one of the many occasions on which a gentle manner and quiet movements are such valuable qualifications for a Nurse.

It will be best to mention the routine system of feeding where special precautions are necessary, when I come to deal with the Nursing of such cases; but, with every patient, the question of food is one which claims care, knowledge, and intelligent attention on the part of the Nurse.

As different sorts of food are needed to supply various physiological requirements, there is a distinct object in helping the Doctor with clear information as to what has or what has not been taken.

**Quantity of
food taken
by the
patient.**

A Nurse has the best opportunity of observing whether the patient takes food eagerly or reluctantly, whether he takes food at all, or merely plays with it. Amateur Nurses are apt to confuse the quantity *served* to a patient with the quantity *taken*, which is frequently a very different thing. All Nurses must be particular to acquire a habit of speaking definitely as to quantity, and with as near an approach to accuracy as circumstances permit. In reporting to the Doctor, a Nurse must not content herself by saying, for instance, 'This patient has taken a good dinner;' 'This patient has not eaten much;' but she should try to say, as nearly as she can guess, what he actually has taken by weight—so many ounces of meat or fish; so many ounces of bread or potatoes; so many ounces or pints of liquid in such and such a time. These are *facts*, and will be concise information for the Doctor's benefit, whereas the vague statements, so frequently given, are often most misleading, and of very little practical use.

A Nurse must notice whether a patient complains of pain or discomfort after food, and, if so, how soon after food; whether he retains it, and about how much he retains, if there is any difficulty in this respect. She must notice, also, whether the patient complains of nausea, and whether he suffers from thirst.

For the most part, there is generally some definite, if unperceived reason, besides the fancy of the patient, when it is found that he will take nourishment from one person, and invariably refuse it from another. Sometimes when a Nurse has carefully prepared the nourishment, she may tactfully allow one of the patient's friends to have the pleasure of administering it. It is often a great satisfaction to them to feel that there is some service they can be allowed to perform for a loved relative, whom they have been, or are, watching over with grave anxiety. The welfare of the patient must be placed first in this as in all other matters, but a tactful Nurse is almost certain to discover that it need not be her *sole* consideration.

Sometimes Nurses are advised to provide their patients with a little cheerful conversation when they are taking

their meals. My own experience tends rather in the opposite direction—at least, until the patient has reached a thoroughly convalescent stage. All experienced Nurses will be guided by their own judgment in adapting themselves to different patients. It is often an exertion to patients to take food, and the effort the occasion demands from them is frequently greater than those in health can easily imagine. In such circumstances, a weak patient does not wish to have his attention distracted from the one matter which is of momentary importance. A tactful Nurse can make her patient fully aware that she is taking an interest in the little meal he has to get through, without taxing his limited powers with the feeling that he is expected to divide his attention between the matter in hand and listening to her conversation. Very few patients and very few people in good health can stand being watched while eating. It often helps a patient for a Nurse to apparently busy herself with other things, leaving her patient in peace to do his best with the task before him, when she is quite sure he has everything he wants within easy reach.

Sleep.

The importance of sleep to every class of patient cannot be easily over-estimated, and Nurses will find, as they gain experience, that they can do a great deal to help their patients in this respect.

The Nurse must notice how long a patient sleeps; what kind of sleep, whether prolonged or in snatches, whether heavy or light, whether peaceful or restless, whether the patient talks or mutters uneasily and throws himself about, or whether he appears quiet and comfortable. It is a matter of common knowledge that patients seldom know how much sleep they have, and are frequently under the impression that they have slept far less than has really been the case. A Nurse should avoid contradicting her patient when he declares that he 'has not slept all night,' though she may have the satisfaction of knowing that he has been peacefully slumbering for six or eight hours. She may gently suggest, if she thinks it advisable, that perhaps he had a little sleep at some particular time, but there is nothing gained by irritating the patient with information which nothing will induce him to believe. It is important

that the Doctor should know the amount of sleep that a patient has had in the twenty-four hours, that he may guide his treatment and judge of the results accordingly. On the other hand, there are patients—I have known them—who are so desirous of making the best of themselves, that they are eager to please their Nurse and those anxious about them, by declaring that they have slept more than they have done. A Nurse must, therefore, exercise her powers of observation carefully, and be very sure that she knows the truth. We have all heard tales of Night Nurses who have allowed themselves to sleep the greater part of the night, and have then been under the impression that their unfortunate patients have done the same! But a woman who would be unconscientious in a matter of this kind would prove equally unreliable in other ways. I merely point this out, therefore, to emphasize it as a danger to which a patient may be subjected, if his Nurse is not worthy of the confidence that both he and the Doctor ought to be able to place in her.

Much will depend upon enabling the patient to sleep just when he feels inclined to do so, and an observant Nurse will sometimes perceive that the patient is growing sleepy before he quite realizes the fact himself. A darkened room, whether by day or night, generally has a soothing effect. At night a Nurse must be specially careful that lights are shaded, and not shining in the patient's eyes. Sometimes it is advisable to place a screen before the fire, as some patients dislike, and are kept awake by, a flickering light. Others, on the contrary, are more inclined to drop asleep watching the firelight, and dreamily making pictures in the fire. It is for a Nurse to observe all these details, and not to expect a patient to be able to tell her, in the first instance, what influences have a soothing effect upon him.

When a patient is kept awake from sheer restlessness, a Nurse must try to discover if the symptom is due to any disturbing influence apart from his physical condition, with a view to removing the cause if it be in her power to do so. She must notice if the patient is cold, or if he is suffering from cold feet. She must also see that the bedclothes are

not too heavy. She must be careful not to fidget about the room herself, or to make any disturbing movements. Sometimes the rustling of a newspaper or the click of knitting needles is simply maddening to a patient in a highly nervous condition. On the other hand, there are patients who are nervous, who dread being left alone, whether they admit it or not. These patients like the sense of companionship suggested by the Nurse being near at hand, and prefer that she should occupy herself with sewing, or with quietly reading or writing. The fact of the Nurse having some occupation takes away the feeling of being too closely observed, which a Nurse must always try to avoid giving her patient.

Some patients are induced to sleep by having a soft handkerchief folded and tied firmly over their eyes. Care should be taken that the knot is so arranged that it is not uncomfortable for the patient to lie on. Other patients find that a wet compress placed lightly over their eyes has a soothing tendency, and, if they do not fall asleep shortly, they like it renewed once or twice, when it frequently has the desired effect.

Some patients—not the majority—like to have their feet or their hands and arms gently rubbed until they fall asleep. Some like to have their hair brushed. Some like to have their face and hands sponged. Some few like to be read to, and fall asleep influenced by the soothing effect of a continuous voice. In such cases the Nurse should read on for a little time after the patient begins to dose; otherwise the cessation of sound before he is firmly asleep may wake him up again. If in doubt whether the patient be asleep, it is not a bad plan to read the same sentence two or three times over, and observe if the patient notices this.

A warm drink of milk, or food in some shape acceptable to the patient, will often induce sleep, and is one of the first things that should be tried if a patient becomes restless and begins tossing about wearily just when he was hoping to settle down for a good night's rest. A Nurse must take great care that nothing is allowed to rouse her patient unnecessarily when he is disposed to sleep, as the result, in all probability, will be a wakeful night.

Importance of sleep. A Nurse who understands the value of natural sleep to her patient will try every means in her power to secure it for him. In the majority of cases there is nothing that either Doctor or Nurse can do for a patient to compare with the relief and benefit that he will gain from Nature's sovereign remedy of sleep. Words can scarcely describe to those who have fortunately been spared personal experience in the matter, the deep thankfulness a patient feels for the relief and refreshment of sleep after suffering acute pain. But, in ordinary cases, when actual suffering does not enter into the question, the benefit of sleep to the whole system cannot easily be overrated. There are cases when sleep is an imperative necessity, when it *must* be secured by narcotics, or by any other remedy known to science; but the more the exercise of the art of Nursing can help a patient to obtain refreshing sleep by natural means, the more satisfactory it will be.

If a patient becomes increasingly restless after all his surroundings have been arranged with a view to inducing him to sleep, the Nurse had better begin to talk or brighten up the room a little for a short time, and then watch for the symptoms of recurring sleepiness, and let him, as it were, try again. Anything that brings about *a change in the patient's feeling* is a great help. Sometimes the intense desire to sleep, or the knowledge that he is expected to do so, will have rather an exciting than a soothing effect upon the patient, and the Nurse must be quick to perceive this. There is no law of universal application in such matters. A Nurse should realize that it is an important part of her business to study the temperaments and idiosyncrasies of her different patients, and to help them accordingly. If a Nurse really gives her mind to the subject, she will become full of resources as she accumulates practical experience, and it will be comparatively seldom that she will find herself hopelessly at a loss.

There must be no whispering or walking on tip-toe in a sick-room, for that is enough to put any patient's nerves 'on edge.' A Nurse's object must be, as far as possible, to inspire her patient with a sense of perfect tranquillity. If

Nature has bestowed upon the Nurse herself that invaluable gift—

‘A calm, hushed presence, bringing rest’—

she will ease patients more than she knows by the sheer force of her own personality.

Night Nurses. I may take this opportunity of impressing upon all who are interested in the subject, the importance of the duties and of the responsibilities which rest in the hands of Night Nurses. The punctual administration of food and medicine; the careful observation of symptoms upon the immediate treatment of which life may depend; the living and the dying, are literally left in charge of the Night Nurses, and are often, too, wholly dependent on them.

Nurses who are on night duty in the wards of a hospital, can do a great deal when they are attending to the wants of one patient to prevent the others being disturbed. A certain amount of stir and movement is inevitable in a busy ward, but care to prevent sudden noises, with habitually quiet movements and a quiet way of speaking, will go a long way towards enabling the patients to sleep. Many patients who have been kept awake by pain or restlessness the greater part of the night, will fall asleep in the early morning; and this is an opportunity for the good management of the Nurse to be of special benefit to her patients. Hospital hours are early, and it must be borne in mind that these hours are not only necessary for the orderly working of the institution, but are those to which the majority of hospital patients are accustomed.

It is a general custom in hospitals for the electric light to be lowered in the wards at eight o'clock at night, and turned up again at six o'clock in the morning. Some patients settle off to sleep soon after the ward is quiet, and then, naturally, wake early. Others lie awake half the night, longing for sleep. A Nurse who is keeping a watchful eye on all her patients will be perfectly aware of this, and be very careful that patients who have had little sleep are not disturbed a minute earlier than is absolutely necessary. Others, again, who have wearily to await the effect of

narcotics before they can get any rest at all, will feel that it is cruel indeed for their longed-for temporary rest to be ruthlessly disturbed by any preventable cause.

Awakening patients. With a private or 'special' patient it would be bad Nursing to wake him up at all,

but the exigencies of hospital life unhappily limit the possibilities of individual care in this respect for every one of the patients. A Nurse who realizes the importance of sleep, will do her utmost to diminish the discomfort arising from the occasional necessity of waking patients up. If a Nurse is careful to leave the rousing of bad or sleepless cases to the last minute, it may sometimes happen that they will awake of their own accord, which is always better for a patient. It is never good, and sometimes positively harmful, for patients to be startled from their sleep; so a sudden or rough awakening must always be scrupulously avoided.

The needs of patients are so varied, and they have to be cared for under such different conditions, that no hard and fast rule can be laid down on matters of general management of the sick. It is partly this fact which makes it so important that a Nurse should intelligently grasp and keep in view *the principles* which have to be carried out in the best way that circumstances permit.

In a hospital, when patients have to be disturbed for some special treatment, if they only sleep for a short space of time and lie awake at intervals, it is best for the Nurse to seize one of these intervals in the early morning to wash the patient and make him generally comfortable. After this, especially if she completes the process by giving him a warm drink, the chances are that the patient, knowing that no further disturbance awaits him, may go to sleep again for three or four hours. In other cases, washing the patient early would rouse him up too effectually, and, therefore, it must not be done until the regulation time.

Night Nurses in hospitals, who will have filled all their hot-water bottles at an early hour (see p. 56), should quietly go on with their preparations for the patients' breakfasts and for the washing of helpless patients, so that all is in readiness before it is necessary to turn up the lights, and to

begin the little stir and bustle which is almost inseparable from the routine morning work in a busy ward.

Some patients feel their weakness more in the early morning than at any other hour of the day. These patients are often glad of a cup of hot tea and some food before making the slightest exertion. Others prefer to be washed, or to get up and wash themselves, before taking their breakfast.

It is pleasant to see how a really methodical Nurse will know how to manage so well that every patient will feel that the arrangements have been specially adapted to his individual wants, and yet the general ward work will be steadily advancing and done 'up to time.' The foresight and management displayed by a competent Nurse, who always leaves some margin for the unexpected claims which are certain to arise amongst a number of sick people, will secure that everything is done satisfactorily within the regulation hours. A routine, mechanical type of Nurse will not, as a rule, be more successful in this respect, although in her efforts to attain this object, much of her patient's comfort will have been sacrificed.

The respective duties allotted to Day and Night Nurses during the time when both sets of workers are on duty together, must be carefully defined. This prevents confusion, and enables the necessary work to be steadily accomplished in an orderly way.

At the London Hospital the routine custom is for Night Nurses to get their early breakfast between 5 and 6 a.m., before they get busy with the early morning work. They should avoid having any other little meals before going off duty, as they are then likely to have a better appetite for their dinner at 10 a.m.

The crockery for the patients' breakfasts is usually put out early in the night, when the Nurses have more time. The dispensary trays are also put ready by the Night Nurses. After they have finished their own early breakfast, they begin to get the patients' breakfast ready. They cut the bread, boil the eggs, cook the bacon, for those patients for whom these diets are ordered; put the basins quietly on the lockers, and take the water round for the patients

to wash themselves—in short, every preparation is made that can possibly advance matters quietly before the lights are turned up at 6 a.m. Then the breakfasts are served, the helpless patients are fed, and water, basins and breakfast things are cleared away.

Bed-pans, etc., are then taken round. These are given as far as possible by the Night Nurses until they go off duty. Nevertheless, both Day and Night Nurses must be ready to pay any patient *immediate* attention in this respect.

At 7 o'clock Night Nurses continue to wash any helpless patients who have not already been attended to. They then see to patients' heads and nails. Next, they wash up the breakfast things and other crockery. Then they measure urine and save specimens for testing in accordance with instructions, except in those wards where a physician gives orders that he wishes the twenty-four hours' measurement of urine to terminate at any other special hour. They also clean the basins, bottles, etc., in the sink-room; clean the lavatory shelves, and make all tidy there.

At 8 o'clock four-hour medicines are usually given; poultices and fomentations are changed, and ice-bags and cups need refilling; lotions and compresses have to be renewed. In medical wards, especially, sponging and four-hour temperatures also claim attention.

After this the Night Nurses serve out the milk and cut the bread in readiness for the patients' early luncheon. They also make a list of soiled linen, and send it down to the laundry.

London Hospital Night Nurses go off duty at 9.20 a.m. This gives them time to take a bath if they desire to do so before the 10 a.m. dinner.

Day Nurses go on duty at 7 a.m., so that for the two busiest hours of the morning the whole strength of the Night and Day Nursing Staff is available for the work.

The first duty of Day Nurses is to make the beds, to take and 'chart' the temperatures, and to sweep the wards. Then the tiled tops of tables, lockers, and dressing-tables, have to be washed. The ward furniture, bedsteads, window-sills, and mantel-pieces have to be dusted. Then the 'reds' are put on the beds, and flowers are arranged.

Between 8 and 8.30 a.m. the Day Nurses get their second breakfast. Those Nurses who are taking their three hours off duty in the morning leave the wards at 8.30 a.m., that their dressing half-hour may be included with their regulation off-duty time, and they do not come back on duty until 12 noon. The others leave the wards for their dressing half-hour at 8.45 a.m. and return at 9.15 a.m., to enable the Night Nurses to go off duty at 9.20 a.m.

This method of arranging the work might need some modification at institutions where the conditions are not precisely similar. But this allotment of the various routine duties between the Night and Day Workers proves well adapted to the end in view. My conviction that this is so, is founded on careful observation and considerable experience.

Night Nurses' reports. Hospital Night Nurses must leave a carefully written report for the use of the Sister during the daytime, supplementing this with the full account of all that has taken place, which every Sister will be glad to receive from her Night Nurses as soon as possible after she comes on duty in the morning. The Doctors will want to have full particulars of what has happened to their patients during the night, at hours when the Night Nurses are sleeping and off duty. Therefore, it is important that a Night Nurse's report be full, concise, and accurate.

The reprehensible custom of putting the most inefficient and least trustworthy Nurses on night duty has been much modified during recent years, and in many hospitals has become altogether an error of the past. This is scarcely the occasion for me to enlarge on the evils inseparable, in my judgment, from the appointment of permanent Night Nurses. For the most part reforms in matters concerning Night Nurses are introduced more slowly than those affecting the welfare of Nurses who are taking day duty. No one can deny that if more work has to be got through by Night Nurses before they go off duty than can reasonably be managed by the number of workers allotted for the purpose, in the time at their disposal, it is a great temptation for Night Nurses to begin at an earlier hour than any patients

should be disturbed. Many of these defective arrangements are not within the control of the Night Nurses themselves, and they must, of course, conform to the existing regulations of the institution in which they are working. But what I am anxious for a Nurse to understand is that the more she perceives and sympathizes with the patient's point of view, the less likely she will be to sacrifice his comfort, if not his actual welfare, to spare herself personal inconvenience in other ways. If a Nurse remembers that in some cases the only cessation from pain which a patient can hope for is when he is actually asleep, she will realize how abnormally precious sleep becomes to that patient, and she will do her utmost to secure it for him.

It falls to the share of a Night Nurse to carry out some of the routine preparation of a patient for operation. But she need not on that account wake him earlier than *is* absolutely necessary, and so add to the length of time that must elapse during which he will inevitably lie thinking of the ordeal awaiting him. It is in little matters of this kind that a really sympathetic, tactful Nurse will spare her patients more than can ever be put into words. This is only an outline of the many directions in which Night Nurses have special opportunities for helping their patients, and it would be well if all could recognize what a great *trust* Night Nursing is.

Mental rest. When the Doctor prescribes the treatment of perfect rest in bed, the benefit his patient will derive from it will be considerably influenced by the degree of mental rest which can be combined with the physical. No true Nurse will ignore or underrate the importance of keeping her patient's mind at rest. In many cases this is infinitely more difficult than to provide for his physical necessities, and the way in which a Nurse can secure mental rest for her patient is far harder to define than her practical duties. Something will be gained if the Nurse is quick to perceive whether her patient is worried or not. There is all the difference in the vexation and disappointment due to the mere fact of being ill, and in the sense of active worry from which some patients suffer when they are aware, or under the impression, that matters of

vital importance to them are probably going wrong from the fact that they are incapacitated. Doctors often decide that it is worth running some physical risk that they would fain spare their patient, rather than incur the serious effect of prolonged mental anxiety, when it is manifestly hindering his progress. It is impossible to formulate any general rule as to what form these worries may take ; but a Nurse must remember that she is only doing half her duty if she regards her patient as a lay figure. It is as idle to tell him 'not to worry,' if he is mentally disturbed, as it would be to tell him to go to sleep when he found it impossible to do so.

The merest trifles frequently worry sick people to an extent that those who are well cannot in the least realize. The patient himself would probably be the first to laugh at the idea of attaching any importance to them if he were in his usual health. Sometimes noises, whether sudden or continuous, will have an irritating effect upon a patient, whereas other patients scarcely appear to notice them. Sometimes patients take an active interest from the sick-room in ordinary household concerns, while others are glad to be spared all knowledge of them. Often the patient himself is the last to understand to what his miserable sense of irritation is due. If the Nurse is under the impression that it is attributable to any detail that she can get altered, she had better try to remove the cause before speaking to him about it, and see if it has the desired effect. The patient should be spared the mental effort of making up his mind whether some ordinary sound has become specially annoying to him or not. If a patient hears any little disturbance going on in the house, he is almost certain to want to know what it is all about, though he may hesitate to say so. The Nurse must exercise her own discretion both as to obtaining and imparting the desired information. If it is not advisable to give it, she must tactfully try to turn her patient's attention in some other direction.

**'Thinking
for'
patients.**

A Nurse must 'think for' her patients over all small matters appertaining to their welfare, and not leave them the responsibility, which they will feel, whether acknowledged or

otherwise, of thinking for themselves. She should not answer them impatiently, and tell them, or show by her looks that it is 'her business,' if they venture to remind her of anything. I am sorry to say I have heard many an impatient Nurse do this. She must try to think for them so carefully that they will feel a sort of restful confidence in her. *That* in itself is a tangible help to a very weak patient.

Whenever a Nurse has a sick person in her care, her perceptive faculties should always be on the alert to find out his individual needs, and the best means of supplying them. When she once grasps this principle, the practical application of it will vary in detail in almost every case; but her success as a Nurse will mainly depend upon the extent to which she perceives and adapts herself to each patient's requirements and character.

We know that a very real blessing rests upon all loyal, faithful service; and Nurses cannot be too strongly imbued with the thought that those who tend the sick and suffering should do their work in that unwearied spirit which alone can make this blessing their own.

‘The noblest service comes from nameless hands,
And the best servant does his work unseen.’

CHAPTER VII

Splints. I DO not propose to enter into verbal descriptions of the different kinds of splints, nor the names and patterns for various purposes used in different hospitals; these can be learned best in the practical experience of the wards. But there are a few small points in connection with splints that all Trained Nurses should know and remember.

The names of the splints most used for their respective purposes, and the comparative advantages and disadvantages of different kinds—any special points to remember in the padding of any of them—are all matters for practical experience in the wards, and it is only in this way that the requisite knowledge can be acquired. To give minute theoretical instruction on these details would be an utter waste of time, so I shall confine my remarks on the subject to a few general and important statements.

It is a Nurse's business to take pains with the cleansing and padding of splints. There are innumerable kinds of splints, made of various materials—wood, metal, gutta-percha, leather, etc. In cases of emergency, broomstick handles sawn in two, corrugated paper, straw casings used as coverings for wine-bottles, and folded newspapers, have served the purpose when nothing else was to be had.

Nurses can scarcely be too careful about the cleansing and disinfecting of *all* splints that are to be used again. They should never put them away dirty, on the chance that the Nurse responsible will be able to attend to them when she has more time, and that 'it will be all right' if she can manage to get them ready somehow before they are needed. They may be wanted suddenly when the Nurse who knows about them is perhaps not there. It is infinitely better

that Nurses should have the extra trouble of cleaning splints twice over, if they have time to get soiled before they are wanted, than that any risk should be run of infecting a patient by the application of a splint that is not absolutely clean. I need scarcely point out how readily the contagion of erysipelas or pyæmia, or septic poisoning of any kind, may be conveyed from one patient to another by the application of an uncleansed or inefficiently cleansed splint. It is not too much to say that lives may be, and unfortunately have been, lost solely through the carelessness—I may fairly say, the unconscientious carelessness—of Nurses indifferent to or ignorant of the danger. After all, ignorance is not a very adequate excuse, if we hold a position which makes us, under certain conditions, responsible for the lives of some of our fellow-creatures. It is terrible that some have been sacrificed mainly through such avoidable causes. The more a Nurse thinks of the responsibility attaching to her work, the more vividly she must realize the grave importance of understanding as much as she can about everything she has to do, and the reason why these apparent trifles demand so much care and attention.

Cleansing of splints. The best way of cleaning a very dirty splint is first to rub it with tow soaked with turpentine. After this, it should be well scrubbed with hot water and plenty of soap and soda, and, finally, it should be allowed to soak in some strong disinfectant.

Padding of splints. With regard to the padding of splints, pains should be taken to pad to suit the wishes of the Surgeon for whom the Nurse is working. Some Surgeons give the preference to rather thick pads, some like them much thinner; all expect to have them *evenly* made, one of the objects in using a splint being to apply *equal* pressure. Soft old linen is the best material for covering pads, but, as large hospitals are but insufficiently supplied with this, we are obliged to use unbleached calico. A mixture of tow and wool may be used to stuff pads. Cotton-wool, if used alone, is said not to have sufficient 'spring' in it, besides being extravagant. Tow is not sufficiently soft to be employed alone. All lumps must be carefully avoided, whatever material is used.

Nothing can be more admirably adapted to its purpose than the padding wool sold especially for it. It is comparatively expensive, but excellent. In using it Nurses must combine economy with extreme care not to run the slightest risk for the patients, by making up pads with a single morsel of padding-wool that has not been made safe for the purpose by careful sterilizing.

Water-proof coverings for splints.

The object of waterproof covering for splints is to keep them clean and dry, notwithstanding applications of a moist or greasy nature. Oiled cotton can be used, but the disadvantage of it is that it is not very soft to place next the skin. Jaconet—which is more familiarly known as ‘pink mackintosh’—is the most satisfactory material for the purpose.

One point should be kept in remembrance in padding all kinds of splints, and that is, to make the pads sufficiently large to thoroughly cover the sides of the splints, and not to leave the hard edges without this protection. If any Surgeon objects to this, a Nurse must at once endeavour to meet his wishes, but such objection will be a very rare exception, and not the rule. The pads should be sewn on with long even stitches, but, if they are wanted in great haste, or, if additional pads are suddenly required, as they sometimes are, a piece of strapping quickly wound across will serve to keep them in place. In applying, or helping others to apply splints, cotton-wool should always be at hand; it is often serviceable in preventing or relieving pressure.

It is a good plan to place a piece of boracic lint on the foot-piece of the splint, between the padding and the patient's foot. This assists in maintaining cleanliness, as it can easily be changed with a little care.

Toe-caps.

A Nurse must also remember that a patient who has his leg put up in a splint is apt to suffer from cold, and a toe-cap made large enough to cover the splint must be put on over the toes. A toe-cap is made of gamgee tissue, cut in much the same shape as a tea-cosy, and is bound round with red braid to make it look neat and trim. If no toe-cap is available at the moment,

the toes must be covered up and kept warm with cotton-wool.

Pain and swelling after application of splints. If patients complain of much pain after the application of splints, Nurses must be sure to notice if there is any swelling or discoloration of the adjacent parts, and call the Sister's attention to it at once. Of course no Trained Nurse would think of loosening the bandage on her own responsibility, unless the Doctor were far out of reach, and considerable experience on the part of the Nurse rendered it desirable for her to act for him in quite exceptional circumstances. The continued application of too tight a bandage, with the increasing pain and mischief resulting from the pressure, may be a serious matter, in addition to the suffering of the patient; so complaints of this kind must never be ignored. On the contrary, a Nurse must watch that the inevitable discomfort does not amount to pain, and if it does she must immediately inform the Doctor.

Sand-bags. Sand-bags are extremely useful to keep injured limbs still and in position; they should be made of tick, such as is employed for making mattresses, because it is strong and close in texture, and sand is very heavy. The sand-bags should then be covered with mackintosh or oiled cotton, to keep them dry and clean, and, finally, it is a refinement of Nursing to cover them with little cases of linen, removable like pillow-cases, and ready to be supplied clean for each patient, or whenever necessary, and very neat and 'finished' they look in the bed. Nurses must be sure in making sand-bags that the sand is thoroughly dry.

Strapping. Strapping is applied to various parts of the body by way of affording support and even pressure. The strapping should be carefully ruled before cutting, to ensure evenness, and the strips must be cut the required length and width. The Nurse must be quick and attentive in handing the Surgeon the strips as he is ready for them, duly warmed by placing the non-adhesive side of the plaster across the hot-water strapping tins.

**Strapping
for frac-
tured ribs.**

Fractured ribs are frequently treated by strapping the chest, to afford support and to secure the greatest possible 'rest' to the injured part. The strapping for fractured ribs should be cut three inches wide, and the strips should be long enough to reach from the back bone to the sternum (*i.e.* the breast bone). About six strips of strapping of this width are generally sufficient for an adult patient. In strapping a case of fractured ribs, the starting-point should be made at the highest place it is intended to cover, commencing at the back. The strapping should be applied downwards. The strips should then be brought firmly round to the front. Each succeeding strip should cover the one previously applied by about one-half. The firm pressure of well-applied strapping gives great comfort to the patient. The whole should be covered by a neatly applied rib bandage.

**Strapping
for exten-
sion.**

The strapping put on the leg to enable extension to be applied is often left to the Nurse to do. All grease must be removed, and the leg washed clean. Any oily substance will make the strapping slip. Three or four pieces of strapping are wound round the leg at intervals to keep the extension strapping in position, and the lowest of these pieces should be placed immediately above the ankle joint. A practical illustration is, however, better than a verbal description. The strapping must be put on in such a way as to prevent wrinkles, and every care taken to avoid pressure sores. This point needs a great deal of attention, and Nurses must always see carefully whether anything is wrong if the patient complains of pain in this respect. A little piece of wool under the heel, or between the loose part of the strapping, may often save a great deal of suffering. It is a good plan to cut a small hole in the loose part of the strapping for extension which comes over the ankle to relieve all chance of pressure or friction there. Small pieces of lint should be neatly wound round the foot to prevent all avoidable discomfort. Infinite pains must be taken to make every arrangement possible for the patient not to suffer any *unnecessary* inconvenience, nor

to run any risk of the treatment of extension having to be given up in consequence of external sores. The weight must not be put on until the strapping has had time to adhere firmly. A domette bandage should be put over the strapping. When the extension has been applied, a Nurse must lift the weights carefully before giving the patient the bed-pan.

Once again let me repeat that a Nurse must never ignore a patient's complaints of a splint or a piece of strapping being too tight. The sores which come in consequence are often difficult to heal. Nurses and Probationers working in a hospital should take care that the Sister knows at once of the complaint, that she may attend to it. Nothing the Surgeon has applied must be altered without orders to do so. After the application of plaster of Paris and other bandages of the same description, swelling is apt to take place. The Nurse must notice if the part below the bandage swells or becomes discoloured, just as she must do when other bandages and splints have been put on.

**Hare-lip
strapping.**

I may as well mention also that strapping cut in a special manner was formerly used for cases of hare-lip and other wounds, but now this is rarely employed.

Another method of cutting strapping is useful in cases where it is desirable to afford support, and at the same time to keep an outlet for the discharge. This is known as grid-iron or fenestrated strapping, a portion of the strapping being cut into strips in a manner suggestive of the name.

**How to
remove
strapping.**

When a Nurse is ordered to remove strapping from wounds, she must be extremely careful not to drag open the wound. In removing strapping from wounds begin at both ends and work towards the centre of the wound. This is an important point to remember, as it is essential to prevent all risk of breaking down or of injuring any union that may be taking place. It is a good plan for a Nurse to press her hand firmly on the patient's skin underneath the strapping as she takes it off. Otherwise it is apt to pull the tiny

hairs on the skin, and thus give a tearing sensation very unpleasant to the patient, and which causes unnecessary pain. An ignorant Nurse removing strapping roughly and clumsily may during the process undo the work of weeks, so this point must not be regarded as a trifling detail.

**How to
remove
strapping
marks.**

To get off the dirty marks of strapping use a little oil; turpentine, of course, is effectual, but that is rather harsh; chloroform is also excellent for the purpose, but it should be remembered that chloroform blisters some

skins.

**Strapping
for ulce-
rated legs.**

With some Surgeons strapping is a favourite form of treatment for ulcerated legs. When it falls to a Nurse's share to apply strapping to an ulcerated leg, she must remember to stand in front of her patient in the same way that she would do to put on a bandage. She must then pass the well-warmed strip of plaster under the limb, and apply the middle of it to the back of the leg, bringing the ends round the sides of the leg, and crossing them over in front. Each succeeding strap should overlap its predecessor about the third of its width. Very often the ulcer is left exposed, so that the dressing applied to that can be frequently renewed. Occasionally a Surgeon may prefer the strapping to be continued over the dressing.

**Unna's
'stock-
ing.'**

Another form of support for ulcerated legs is made with Unna's dressing. This is a mixture of equal parts of oxide of zinc and gelatine, which is melted down and applied with a paint brush before it solidifies again. To apply this dressing the leg must first be bandaged from the toes upwards with gauze bandages, leaving the ulcer free. The mixture is then painted on to the bandage, and allowed to get solid. The part surrounding the ulcer is then neatly trimmed away, leaving a clear space for whatever dressing may be prescribed for the ulcer. After this has been done, the whole should be covered with an ordinary bandage to keep it clean.

Gum and chalk, plaster of Paris, silicate of potass, and starch, applied with bandages, are light forms of splints that are often employed. They keep an injured limb in position in a form least inconvenient to the patient when he begins to move about.

**Gum and
chalk
splints.**

To make a gum and chalk splint, one pound of finely powdered chalk, which has been strained through a coarse piece of muslin, and one pint of liquid gum will be required. When these ingredients have been thoroughly mixed to about the consistency of cream, the mixture must be allowed to stand for several hours, after which it will be ready for use. The leg should be shaved to prevent the hairs on the skin adhering to the splint. A little oil should be gently rubbed on the skin. Three cotton stockings will be needed, with the toes cut off. The first stocking should be put on inside out, so as to leave the smooth surface against the patient. A long piece of tape should be placed down the whole length of the front of the leg, under the first stocking. This is done to enable the limb to be slung up to a cradle to dry when the splint has been applied. It also facilitates its removal later on. The mixture should be thoroughly rubbed into the first stocking before the second stocking (which should be just one size larger) is put on. The mixture must then be thoroughly rubbed into the second stocking as before, and the process must be finally repeated over the third stocking. When a nice smooth surface has been obtained, the leg is slung up to a cradle and left to dry. Hot-water bottles should be placed round the leg to assist the drying process. When the splint is thoroughly dry and firm, it must be neatly cut down the front of the leg with a sharp pair of scissors, taking the tape as a guide. The splint is then taken off, and the edges trimmed round and bound neatly with strapping. Eyelet-holes are made on each side where the splint has been cut down, so as to enable it to be laced on. One of the advantages of this splint is that it can be taken off and replaced whenever necessary. A domette bandage should always be applied to the leg before the splint is laced on.

**Plaster of
Paris
splint.**

One way of making a plaster of Paris splint is to take crinoline bandages, two inches wide, and spread on these a thin layer of dry plaster of Paris as the bandages are being rolled up. When these are used a bowl of water is necessary to dip them into, as they must be moistened just before they are wound on to the leg. The limb must previously be covered with a domette bandage. A mixture of plaster of Paris and water is then thoroughly rubbed into the bandages which have been applied until a smooth surface is attained, and the whole is allowed to dry. The Nurse must notice carefully whether there is any swelling of the foot, or whether the patient complains of pain in any particular part, as this would indicate that the splint did not fit properly, and it is a matter which requires immediate attention. The splint cannot be taken on and off, but must remain on until the Surgeon wishes it removed.

**Plaster of
Paris
jackets.**

Plaster of Paris jackets are prepared in the same way for spinal cases. A special apparatus is employed for their application which is carefully supervised by the Surgeon who orders this treatment.

**Croft
splint.**

Another form of applying plaster of Paris is known as a Croft splint. This is made with Bavarian flannel and lint, both shaped to fit the leg, in two halves. The leg is first covered with a domette bandage. The plaster of Paris mixture is spread on the Bavarian flannel, and the piece of lint laid over it. The half thus made is then put on one side of the leg, and moulded to fit. It is fastened on with a calico bandage. The other half of the splint is then applied to the other side of the leg, and bandaged on in the same manner, and the whole left to dry. When the splint has become quite hard, it is removed in two pieces, the edges neatly trimmed, and the splint re-applied with bandages. The splint can be removed for washing the limb or for any other purpose whenever deemed necessary.

It is a good plan for a Nurse to oil her hands and fill her nails with soap before applying these splints, as it enables her to clean her hands more effectually afterwards.

**Bed-rests
of various
kinds.**

Arm, leg, and general bed-rests of various kinds must be adjusted to suit each case in the manner that will be shown to Probationers in their practical work. They must apply their own common-sense and intelligence to the complete understanding of the *principle* on which these appliances are constructed, and the objects they are intended to serve, and they should study to become skilful in adjusting them to the needs of a patient.

I should mention that the tendency which weak patients have to slip down in the bed when the upper part of the body is raised against a bed-rest, is frequently a source of discomfort, and a Nurse should exercise her ingenuity to minimize the difficulty in every case. A firm pillow, placed under the knees and tied to the head of the bedstead on each side, answers this purpose very well. Blocks about six inches high, placed under the two bottom legs of the bedstead, suit some cases better, and attain the same object. Bed-rests should be firm and wide and heavy enough not to slip. There should be 'arms' on either side on a level with the patient's shoulders, to prevent the pillows falling off, and to give a general sense of security to the patient.

A canvas bed-rest the same width as the bed and fastened with straps to the bedstead above and beneath affords an admirable means of arranging pillows comfortably and securely. It gives firm yet easy support to the patient.

Slings. The application of slings is frequently left to the Nurse without any special directions being given. There are two or three facts in connection with their adjustment that it is useful for Nurses to know.

In injuries to the forearm or hand, in nearly every case the sling should support the whole of the forearm, including the elbow. The only exception to this would be a fracture of the upper part of the arm, in which case the pushing up of the elbow would have a tendency to displace the fracture, and it is better to employ a narrow sling for the wrist or hand only.

To support the foot the sling should be placed round the

neck. For slinging up the arm or foot in a recumbent position, webbing should be attached at intervals to the cradle, which is placed over the injured limb to relieve the pressure of the bedclothes. With regard to the varying height at which it should be slung up, the Nurse should carefully note how the Surgeon places the limb when he slings it up in the first instance, and endeavour to keep it in the same position. These cradles look best painted white. The sort known as 'Bloxam's cradle' is the most comfortable for slinging up fractures. It enables the patient to change his position in bed without risk of displacing the fracture.

A three-cornered bandage can be used advantageously as a sling, and it can also be adapted with excellent effect to most purposes for which ordinary bandages are applied. This is called the Esmarch bandage, from the name of the inventor. Nurses must get taught practically the various methods in which it can be applied.

Bandaging. I strongly recommend Nurses to avoid *practising* bandaging on lay figures and blocks as far as possible, if they wish to become good bandagers. It is better to practise on each other, or on long-suffering friends, as often as they can. The sensation—if one may so speak—of handling stiff, unyielding material, however well modelled to the shape of a limb, is so different to the comparatively elastic touch of living muscle, that my observation in this matter has led me to the conclusion that *practising* bandaging solely on lay figures is not only undesirable but harmful. At the same time, I would not be understood to condemn the practice of being shown how to apply any particular bandage, or of just learning the actual method on a lay figure. The custom I deprecate is *practising*, with a view of obtaining proficiency, on a lay figure, under the impression that it is as satisfactory for the purpose as a living subject.

It is a truism to remark that nothing but constant practice can give the requisite skill in any mechanical accomplishment. Probationers should not imagine that bandaging is only to be thought of in surgical wards. On the contrary, they had better practise on sound than on injured limbs.

Different kinds of bandage materials.

Bandages are made of ordinary flannel, domette, calico, butter cloth, woven material, linen, muslin, or gauze of various kinds. In preparing them for use, selvages must *always* be removed, and joins should be avoided as much as possible. Where economy, or any other reason, necessitates them, a Nurse must be sure to make the seam as flat and smooth as possible, and she should not use big knots in her cotton. All bandages must be rolled tightly, to enable them to be satisfactorily applied. The lengths vary from six to twelve yards, generally some length between these two measurements. It is not a proof of good bandaging to see how much material can be wound on, but rather, within certain limits, to ascertain how little will answer the purpose satisfactorily, without cumbering the limb unnecessarily. At the same time, it is often essential to extend the bandage considerably beyond the exact spot which renders its application necessary, to prevent the swelling of adjacent parts.

In applying a bandage over a joint, a Nurse must always be most careful to see that the limb is placed in the best position attainable. For instance, the arm should be flexed before the bandage is applied over the elbow. It is both wrong and painful to bandage straight up over the elbow and attempt to bend the arm afterwards. This interferes with the circulation, and might lead to serious consequences. The foot should be placed at right angles to the leg before applying a bandage to the ankle. The principle to keep in view is that should the injured limb become stiff, it will be fixed in the position most convenient to the patient.

Nurses must endeavour to understand as far as possible with what object the bandage is ordered. It may be merely to ensure that a dressing is kept in place; it may be to supply firm support; it may be to check hæmorrhage. But whatever the reason may be, a Nurse must keep this primary object in view; secondly, she should have due regard to the comfort of the patient; thirdly, to the neat appearance of the bandage; and finally, to the economy of the bandage.

Widths of various bandages. Bandages are of different widths, according to the purpose for which they are required.

| | | |
|---------------------|---------------------|---------------------------|
| Head rollers | are usually about 2 | inches wide |
| Leg and arm rollers | „ „ | 2½ „ „ |
| Rib or chest „ | „ „ | 5 „ „ |
| Toe or finger „ | „ „ | from ¾ to 1½ inches wide. |

Occasionally double-headed rollers are required, *i.e.* the bandage is rolled up from both ends towards the centre, so that a Nurse has, as it were, two rollers joined together to work with. This is convenient for the capeline and some other bandages.

When a Nurse is going to apply a bandage, she must place herself *opposite* the patient, not by the side. A firm and fixed beginning for a starting-point should always be made, not *on* the place for which the bandage is needed, but beneath. ‘When applying a roller it is best to begin by placing the outer surface of the roller next the skin. . . . The bandage should be carried from the inner side of the limb by the front to the outer side.’ Bandage upwards. The reverses must never be made over a prominence of bone such as the shin. There are three different turns—the simple spiral, the reverse, and the figure of eight. The spiral bandage is sufficient when both edges of bandage can lie evenly on the surface of the limb, but when the limb enlarges too fast for this, the turn must be interrupted, and brought back by a reverse ; or, if over a joint, for instance, by figure of eight.

At the moment of reversing, the bandage should be held quite loosely, and the thumb of the unoccupied hand must fix the lower border of the bandage at the highest point of the turn, while the roller is turned over in the other hand and passed downwards to overlap two-thirds of the previous turn evenly. All the reverses must be carried one above the other, along the outer side of the limb, and only employed when necessary.

Figures of eight are made exactly as their name implies, by passing the roller alternately upwards and downwards as it envelopes the limb. They are adopted where the

enlargement is too great and irregular for reverses to lie evenly, as the ankle, the elbow, or the knee. It is of the first importance that bandages should be adapted to the object for which they are employed, whatever that may be. They must not be too tight over dressings. They must afford steady, *even* pressure, and not be tight and loose alternately.

To get reverses always outside limbs, a Nurse must learn to bandage with both hands with equal facility. Turns should not be made over a wound when it can possibly be avoided. For instance, if the ulcer is on the outside of the leg, the reverses should be made inside, avoiding the prominence of bone. 'Reverses' are always preferable to 'pockets,' and should be employed whenever necessary. The patient must always be the *first* consideration, and every other Nursing quality comes *after* that. Nothing but constant practice can teach Nurses how to do the various kinds of bandages with skill, neatness, and finish. It rests with all Probationers who pass through our Training School to maintain the reputation of the London Hospital Nurses for being good bandagers.

**T-ban-
dages.**

The T-bandage is made with two pieces of bandage, the end of one being joined to the centre of the other, which should be long enough to tie round the waist and fasten in front; the other end should reach from the centre of the back, under the perinæum, and up to the waist in front. This piece may be left entire or slit into two tails, which can be fastened separately over each groin. This is a most useful bandage for keeping applications in place.

**Many-
tailed
bandages.**

The same may be said of four-tailed, six-tailed, and many-tailed bandages. They are made by joining the requisite number of strips of bandage, slightly overlapping each other, on to a central piece of bandage. The particular advantage of the many-tailed bandages for those cases to which they are applicable is that the dressings can be changed without moving the limb, and thus much pain, and possibly some increase of injury, may be spared to the patient.

The capeline bandage for the head is serviceable occasionally. There is nothing special to mention in the theory of its application, except that care must be taken not to put it on too tightly. Probationers must try to get practical illustrations of it, and individual practice in applying it in the wards.

The spica bandage is a figure of eight that can be applied to the thumb, the shoulder, or the groin.

A bandage for the jaw has a small slit made lengthways in the centre to support the chin, and the ends are slit a little way down, so as to fasten partially at the back of the head, and partially at the top, as this serves to keep it in place.

Rib rollers are the best kind of bandage with which to apply jacket poultices, if a bandage is used at all, but it is not satisfactory. A broad piece of calico, rather more than the depth of the poultice, brought from under the back, and fastened with strings or safety pins in front, and with two strips of bandage sewn at the top of both sides at the back, and brought over the shoulders, to fasten with safety pins in front, will keep the poultice securely in position, and be less fatiguing for the patient when the poultice is renewed, than the rolling and unrolling of a bandage on each occasion. This should be applied *very firmly* to secure the patient's comfort. A Nurse taking off a bandage must gather it promptly up in her hands as fast as she unwinds it, and not leave it hanging loose, to drag more or less by the yard until the whole bandage is removed. I have heard an eminent Surgeon say that he judges of the quality of a Nurse's training by the way she takes off a bandage, rather than by the way she puts it on.

CHAPTER VIII

Cold and heat as remedial agents.

WE have to consider cold and heat as remedial agents, their respective properties as such, and then their varied forms of application. Cold and heat are relative terms, and are used in a comparative sense. Temperature is a condition in which matter is ; not matter itself. Our original ideas of cold and heat are influenced by the temperature of our bodies. If a substance is of lower temperature than ourselves, we call it cool or cold, according to the degree of difference which exists. In the same way we call any substance of a higher temperature than ourselves warm or hot. A cold substance is warm compared to one cooler than itself, and a hot substance is cool compared to one hotter than itself. That is what I mean by saying that cold and heat are relative terms. For instance, ice is water, *i.e.* matter in a state of cold called freezing ; steam is water, *i.e.* matter in a state of evaporation.

Living things produce heat ; or, to put it more forcibly, the production of heat is a property of all living matter. The animal heat of our bodies is of the same nature, and caused in the same way as heat in a fire, that is, by the union of oxygen with other substances. But I do not propose to enter into the physiological aspects of the question, nor to say more about temperature. It will be better to limit what I have to say to the properties of heat and cold, as remedial agents, and the objects for which they are thus employed.

Action of heat and cold.

Heat and cold act by modifying the supply of blood to the surface, *i.e.* by diminishing it, which is the effect produced by cold ; by increasing it, which is the effect produced by

heat. With this alteration in the quantity of blood goes also an alteration of sensibility, *i.e.* diminished sensibility, as produced by cold up to complete loss of sensation; increased sensibility, as produced by heat up to scalding, with all the varied degrees of sensibility between these two extremes, such as the sensitiveness of a surface after the application of a poultice, or the coolness of a part to which an evaporating lotion has been applied.

The main uses of these natural agents, then, are : (1) to modify the amount of blood to the surface ; (2) to reduce temperature ; (3) to increase temperature.

They act as cold producers by direct abstraction of heat, by conduction, and by evaporation, thus producing a fall of temperature.

They act as heat producers : (1) directly by the application of a hot substance ; (2) indirectly by the diminution of evaporation, and so by preventing the fall of temperature.

As a remedial agent cold is employed as a solid, as in the form of ice-bags or 'Leiter's tubes,' and as a liquid, as in the form of water and cooling lotions.

Objects for which cold is employed. It is used for at least six distinct objects : (1) As a *stimulant*—in the way of dashing cold water over people in various methods. It is thus employed in cases of alcoholic poisoning, opium poisoning, or in recovering patients from the effects of chloroform, fainting, and so on. (2) It is used as a tonic—when employed with a view to producing reaction, as in the ordinary cold bath. (3) As an abstractor of heat—to reduce temperature, as in cold packs, evaporating lotions, and that class of remedies. (4) As an anæsthetic—either for the purpose of soothing pain, or to produce complete loss of sensation. (5) As a styptic—to arrest hæmorrhage internally or externally. (6) To cause contraction of parts, as in cases of hernia, for instance.

The effects of cold on the human body. The effects of cold on the human body are various, according to the way in which it is applied. Cold water is frequently applied to abstract heat from the whole surface of the body, or from some particular part of it, or to induce general or local excitement or shock. It is also

employed to reduce fever, and to allay inflammation. On exposure to cold, increased oxidation of the tissues takes place, as is demonstrated by the larger quantities of carbonic acid thrown off by the lungs.

However, Nurses will not have to *prescribe* cold in any form, only to *apply* it in such a manner as comes within the province of a Nurse's duties. It is desirable for Nurses to know something about the properties of cold as a distinct form of treatment, that they may carry out such treatment intelligently, and understand what is aimed at when it is prescribed. A speedy immersion of the whole or any part of the body in cold water will first give a sensation of shock and chill, local or general, as the case may be, which is almost instantaneously followed by a glowing exhilarating sensation. The next stage after this is 'depression.' The cold bath is considered bracing and very conducive to health when reaction follows. But the ordinary cold bath, which is so useful as a means of preserving health, is seldom ordered for hospital patients.

Temperature of a cold bath.

The temperature of a cold bath varies from 46° to 66° Fahr.—below 50° it is very cold. A cold hip-bath may occasionally be ordered in conjunction with a hot foot-bath, as feeble circulation in the extremities, if thus dealt with, need not interfere with the satisfactory application of cold to other parts. Sometimes the invigorating effects of a cold bath are increased by the addition of sea-salt to the water.

Duration of a cold bath.

When a cold bath is ordered, the patient should not remain in the water after the reaction sets in, for fear of the depression which may supervene if the bath is too prolonged. From three to five minutes is long enough for a patient to remain in a cold bath, when no special orders are given.

Ice-baths.

Ice-baths, for the purpose of reducing the temperature of the body, are nearly always given in the presence of the Doctor. In any case, at first, Nurses would only assist in giving them under the immediate direction of those more experienced than themselves. In

some hospitals ice-baths are much used for typhoid and other high-temperature diseases. The utmost care and discrimination are needed. Brandy is frequently administered to the patient whilst in the bath. At any rate, it must always be close at hand, with a brandy syringe, measure-glass, spoon, and some water or milk, in case of its being suddenly called for.

The patient, after having the night-dress removed, should have a sheet laid over him (not wrapped round). It is well to leave one arm uncovered, that the person who is superintending may have no difficulty in getting at the pulse, which he or she may probably wish to feel all or most of the time.

The patient is usually gently lowered into the ice-bath on the under sheet, as in many of these cases it is necessary to preserve the horizontal position. Meantime the patient's bed should promptly be re-made, and a mackintosh and a blanket placed over the fresh under-sheet to receive the patient when he is lifted back wet from the bath.

Hot bottles, and sometimes hot blankets, are asked for immediately after the bath to counteract any symptoms of collapse that may ensue.

This is one of the many instances when it is necessary for a Nurse to exercise her common-sense and powers of observation to see at once what is needed, and to do what she is told with quiet promptitude. A fussy, bustling, noisy person is intolerable at such a time, and the same may be said of a slow, unobservant woman, who cannot see what is wanted, nor do what she is told with the intelligent quickness which the occasion demands.

Cold Ice-baths are not resorted to now quite so
sponging. much as they were at one time. Cold
 sponging is employed much more frequently, and this devolves entirely upon the Nurse. It is not necessary to expose the whole body at the same time. A blanket should be placed under the patient, and folded over him. Care should be taken not to make the bed damp and uncomfortable, and the sponging should be done gently and *thoroughly* by passing the sponge repeatedly downwards, wetting it frequently.

Duration of ice-cold sponging.

When ice-cold sponging is ordered without any special directions, the process of sponging should not exceed ten minutes, for fear of shock to the patient.

Tepid sponging.

Tepid sponging may be made a more soothing process, and need not be hurried over in less than fifteen minutes if the process is found to be pleasant rather than disturbing to the patient. The best way of drying patients after sponging is to dab each part with a soft towel as the Nurse finishes sponging it. A Nurse should endeavour to make the whole process as little fatiguing as possible, as, when this treatment is followed, it usually involves frequent repetition.

Cold packing.

Cold packing is useful in fevers and acute inflammatory diseases. The patient's clothes must be removed, a mackintosh put over the bottom sheet, and one or two blankets placed singly under him. A wet sheet, doubled lengthways, should then be placed under the patient, another wet sheet folded in the same way should be placed over him, and then the blankets should be folded tightly over him, and closely tucked in. The pack should last from thirty to fifty minutes; longer, if necessary.

Cold packing in acute rheumatism.

In acute rheumatism, when the intense pain forbids the patient to be moved, the Nurse should pack the front of the body, and put a separate wet rag on each joint, changing them frequently.

Drip-pots.

A Nurse must recognize the fact that if cold lotions and applications are ordered, they are intended *to be kept cold*, and she must attend to them accordingly. Drip-pots are an excellent means of keeping up a steady supply of cold lotion. They are simple to arrange, merely consisting of a small vessel (a jam-pot answers the purpose nicely), secured by strapping to some convenient point over the part for which they are required. Strips of lint, with one end dipped in the fluid contained in the pot, and the other hanging over the side, will secure a steady drip of the liquid as long as there is any left in the vessel. The Nurse must make a careful arrangement

of the bed with mackintosh, and an earthenware receiver of some kind to receive the lotion as it trickles down. Having done this, she has only to recollect that the drip-pot will require to be kept full. This is certainly the method of keeping up a constantly cold and moist application which gives least trouble to the Nurse. I cannot say that this remedy adds to the neat appearance of the ward. That is no argument against its use, though it is a strong reason for Nurses to exercise their ingenuity in making the bed and drip-pot look as little untidy as possible.

A still better means for applying this treatment is Soutar's 'Thermos Continuous Infusion Apparatus.' This has the advantage of maintaining the solution at the same temperature, and does not need so much attention on the part of the Nurse to see that a steady drip continues. Soutar's Thermos Continuous Infusion Apparatus is the appliance now used for this purpose at the London Hospital, but Nurses may not always be fortunate enough to have at hand this excellent means for carrying out the desired treatment.

**Application
of cold wet
rags.**

If cold rags dipped in water or spirit lotion are ordered to be applied to the head or any inflamed surface where there is no wound, two pieces of lint or handkerchiefs should be used, that one may have time to cool perfectly in the lotion, ready to replace the warm one when it is taken off. If a Nurse wants to keep a cold, moist application over a wound, she must never wring out a soiled rag or piece of lint in the lotion. It is dirty both for herself and the patient. The piece of lint should be moistened by dabbing it freely and gently with a clean piece dipped in the lotion and taken out dripping, until it is desirable to remove the piece next the wound, and to replace it by a fresh one altogether. Moist cold applications must *not* be dry and lukewarm—that is not a trustworthy carrying out of orders.

I want to impress upon all Nurses that they must not content themselves with *meaning* to keep it right, 'unless they forget.' Nurses, if they are to be depended upon, *must* learn to remember. Carefulness in details is not only

important for themselves, but absolutely essential to the welfare of their patients.

Ice. Ice is immensely used in medical, surgical, and obstetric cases, both externally and internally, as a convenient form of applying intense cold. It must be remembered that extreme cold applied to one part without intermission produces loss of sensation, and so acts as an anæsthetic; if too prolonged, the part will die, and become gangrenous. The benumbed condition is preceded by a sensation of pain, which must be avoided by care in the application when ice is intended to act as a refrigerator, and not as an anæsthetic.

Ice is employed to abstract heat, to allay inflammation, to check bleeding, to produce contraction, and to destroy sensation. Externally, it is usually ordered in the form of bags or in the form of what is known as 'Leiter's tubes,' which are frequently employed for all parts of the body.

The use of ice-bags. The use of ice-bags as an effectual means of applying cold treatment locally needs rather more care and attention than some Nurses are inclined to think. If they are allowed to remain on when all the ice is melted, it is not only that they cease to be of service, but that they do positive harm, by inducing the reaction which follows the removal of any cold application.

Directly the last piece of ice has melted in an ice-bag, the temperature of the water will rise rapidly to that of the part with which it is in contact, and if a Nurse has not fresh ice ready, as it should be, it is better to remove the bag than to leave the bag of water, which has thus become warmed, applied to any part for which ice has been ordered. Wet rags renewed frequently may be employed in the interval if it is very important to keep up the treatment.

Filling and arranging of ice-bags. Ice-bags should not be much more than half filled, and must be so arranged that the entire *weight* does not rest on the patient, though the *bag* does. This is easily accomplished when the ice-bags are needed for injured limbs, by tying the bags to the cradles placed over them. If they are

properly arranged, this keeps them in excellent position. It is rather more difficult to keep them applied to the head, partly on account of the frequent restlessness of the patient, and partly because there is not usually anything able to bear the weight to which the ice-bag can be attached, immediately over the patient's head. Nurses must use their ingenuity and adapt the bag to the requirements of the patient as best they can.

**Lint
between
patient
and ice-
bags.**

Ice-bags must not be placed next the skin, as the application of intense cold is painful, and a thin covering between the bag and the patient makes a vast difference in the comfort, and sometimes in the possibility of bearing it.

It serves the two-fold purpose of preventing frost-bite and of absorbing the moisture condensed on the surface of the ice-bag. A Nurse must remember to change this lint often, as it is *intended to be kept dry*. It is not necessary to put the usual piece of lint between when applying ice-bags to the head, unless it is shaved or bald, as the thickness of the hair answers much the same purpose.

It is sometimes a good plan to wrap a piece of ice in a fold of lint, and pass it lightly over the head and forehead of a patient in a soothing manner, so that he gets the relief of the cold application without the weight of an ice-bag, or the pain and discomfort of the continued application of cold to one particular spot. The lint prevents the water running down as the ice melts, and is convenient for the Nurse to hold. This is not very applicable to the majority of cases in a hospital, but it is a valuable hint for Private Nurses, or for those in attendance on special cases. Ice-bags for the head or limbs are convenient in the form of an ordinary bladder, or made of indiarubber somewhat of that shape.

**Small
gutta-
percha
tissue
ice-bags.**

Small ice-bags for the throat, eyes, forehead, etc., are best made for each case by the Nurse, of gutta-percha tissue, fastened into the required shape with chloroform or turpentine, which will dissolve and stick the edges of the bag together quite securely. A little practice

is necessary to do this neatly, but no special skill, for it is perfectly simple. A Nurse should endeavour to adapt

the shape of these to each case. For instance, those that are wanted to pass under the chin are best rounded a little, and quite as easily made.

The same bags can be used, *for the same patient*, two or three times if the ice is put in carefully. A double supply of these bags should be employed, so that when one is removed the other can be instantly replaced, and the patient not disturbed twice. This is a greater consideration with small ice-bags, inasmuch as the ice melts quickly, and they have to be frequently renewed. In changing these little bags the extreme end should be cut off, for the purpose of refilling it with ice. The ice must, of course, be broken up into small pieces, to make it as little uncomfortable as possible for the patient. Always report at once if ice-bags cause persistent pain.

‘Leiter’s tubes.’ ‘Leiter’s tubes’ are an invention for maintaining a steady supply of cold to almost any part of the body for which it may be required.

A pail of iced water is placed higher up than the patient, from which an indiarubber tube supplies the water to the coil of metal tubes placed on the patient. When the iced water has circulated through these, it is conveyed by another indiarubber tube to a vessel on the floor placed ready to receive it. A Nurse must see from time to time that the water is flowing through properly, as the tube is a little apt to get stopped up and become ineffectual until a vigorous ‘blow’ up the tube puts it all right again. A piece of lint must be placed between the patient and the metal tubes for the same reason that it is employed in the application of ice-bags. The pail containing the iced water must be neatly covered round with flannel, or some other material, to absorb the moisture which rapidly condenses on the outside of the pail, and which will otherwise drop on the bed, or the patient.

How to break ice. Ice is best broken by any instrument that has a very fine point. For dividing small pieces noiselessly and quickly, there is nothing better nor more convenient than a strong needle. If a Nurse wishes to break it without waking a patient, she should place the piece to be divided in her hand, on a small

handkerchief or cloth, and it will scarcely make the faintest sound. No attempt must be made to force large pieces of ice through the mouth of the bag, nor to break the ice on the bag as it is being put in.

How to keep ice. Ice keeps best in large pieces, so it should never be broken up into small ones until required for use. When there is no refrigerator, ice should be kept wrapped up in the dark, and so placed that the water may drip away from it as it dissolves, and so that none of the remaining ice stands in the water.

Ice for patients to suck. When ice is wanted for a patient to suck, it should not be put on the locker in a saucer, so that as it dissolves the remainder is kept in the water, and consequently melts faster than

it otherwise would do. There are convenient cups with strainers made for this purpose, in earthenware or glass. The best and readiest substitute for the proper vessel is to take a jam-pot, and tie a little piece of *new* flannel or lint over the top, depressed in the centre, to make a convenient place for the ice. The jar should stand in a saucer, so that any overflow of water may go into that, and not wet the top of the table or locker. Most of the water will drop into the jar, while the ice remains on the top of the flannel.

Use of ice taken internally. Ice is used internally to allay thirst, but it is apt to make the throat and mouth get very dry afterwards. It is also employed to check bleeding from the mouth, throat, stomach, or lungs, and to allay nausea and sickness. *Constant* sucking of ice is most efficacious for acute inflammation of tonsils. It *may* be given to most patients, and *must* be given to some. Children generally dislike it, because it makes their teeth ache. Some care is necessary in giving it to unconscious or delirious patients, lest it slip into the trachea, and bring on a fit of choking. It may be given for the sickness which so often follows the administration of an anæsthetic, when the patient is sufficiently recovered. Ice taken internally has a tendency to cause constipation, and it is useful to check diarrhœa.

Two parts of finely powdered ice and one part of common salt, form a mixture sufficient to freeze tissues. It will

cause vesication if applied too long, but will not do so under six minutes. The ether spray is usually preferred now.

Spinal ice-bags. Ice-bags are sometimes applied to the head in *delirium tremens* and for the convulsions of children. Spinal ice-bags are occasionally used for convulsions, and many other purposes.

CHAPTER IX

Heat and cold relative terms.

ALL bodies have a certain heat. 'Heat' and 'cold' are relative terms. All substances which are hotter than their neighbouring bodies tend to give up their heat until equalization is reached. Bodies lose heat by conduction, by radiation, and some by evaporation. I think it is essential that Nurses should understand what is meant by the term 'evaporation.' 'Evaporation is the passage of a fluid into a gaseous state.' Fluids are volatile in various degrees. If a saucer of eau de Cologne and a saucer of water are placed in a room, the saucer which contains the eau de Cologne will be dry first; *i.e.* the evaporation of the spirit will be much more rapid than that of the water. Heat increases evaporation. If a lighted spirit lamp were placed under the saucer of eau de Cologne or the saucer of water, the evaporation would be much quicker in both instances. During the process of evaporation—*i.e.* of the passage of a fluid into a gas or vapour—heat is used up. This heat must come from somewhere, and it comes from what is in the immediate neighbourhood, *i.e.* from the bodies nearest it,—the saucer in the example I have instanced.

Of course, for a body to lose heat by evaporation, it must contain fluid, evaporation being defined as the passage of a fluid into a gaseous state. Such bodies as do not contain fluid can only lose heat by conduction and radiation. Our bodies do contain fluid; therefore, we lose heat, to some extent, by conduction and by radiation, but evaporation is our chief means of loss.

Our bodies produce heat and lose heat. I will not attempt to describe the manner in which we produce heat, but it is useful to grasp the fact that our mean temperature is the balance between the production of heat in us and the

loss of heat from us ; and either the production or the loss may be increased or diminished, and so the temperature rises or falls. To be more explicit, if we produce heat in excess, and do not lose heat in the same proportion, our temperature rises ; if we do not produce more than the normal amount of heat, but lose less than the normal amount of heat, our temperature rises. The increase of temperature is usually due to our not losing the normal amount by evaporation. This brings us to the more practical part of our subject. As heat materially assists in producing rapid evaporation, the application of it is frequently employed for this purpose, and the temperature is thus lowered.

Heat can be either dry or moist. We can bear the application of dry heat at a much higher temperature than that of moist heat. An excess of dry heat *burns* ; an excess of moist heat *scalds*. The temperature of dry heat which can comfortably be tolerated, in a Turkish bath, for instance, would scald if it were moist heat. The atmosphere can only absorb a certain amount of moisture. If the atmosphere has absorbed its full amount, evaporation cannot take place, and one chief means of losing heat is prevented.

Heat, both moist and dry, can be subdivided in the same way as rest and cold, *i.e.* in the general application of it to the whole body, and the partial application of it to relieve or cure locally.

As a means of treatment, the *general* application of heat, both dry and moist, has to be studied.

Effect of dry heat applied generally. The effect of dry heat, applied generally, is to produce perspiration, and that is the object for which it is ordered, as a hot-air bath, for instance. The object and effect of dry heat, when applied locally, is to supply heat to the part with which it is placed in contact, as in the application of a hot bottle or brick.

Effect of moist heat applied generally. Generally *moist* heat is prescribed with a view to its sedative effect, and this is the remedial property for which it is ordered in conditions both of nervous and muscular excitement, as after great fatigue, etc.

Hot pack. Hot packing is sometimes employed in cases of dropsy, uræmia, etc. The patient's body linen should be removed, and a mackintosh placed over the mattress, covered with a warm dry blanket. Hot packs are ordered at a varying temperature, usually 100° Fahr. when no special directions are given; but it must be remembered that if the patient is to be enveloped in a wet sheet or blanket at the temperature prescribed, the water in which it is steeped must be at the very least 10° higher than that, or the orders will not be accurately carried out. The higher the temperature, up to 100° at any rate, the more comfortable the application is likely to prove to the patient. When the choice rests with the Nurse, a wet sheet is much more adapted to the purpose than a wet blanket, the latter being very heavy and cumbersome to arrange, and if the patient is quickly covered up with mackintosh and blankets, the heat is effectually retained. Patients are usually kept in a hot pack for about an hour, but they may remain longer if comfortable. Occasionally it has a soothing effect, and induces sleep. In taking a patient out of a hot pack it is best to remove the mackintoshes and everything that has become saturated with moisture, and to leave him rolled up for a short time in a warm, dry blanket. This has a tendency to increase the action of the skin, and lessens the risk of chill. Finally, the patient should be comfortably dried with warm towels, great care being taken for some time after the pack that he is not exposed to any draughts, and that all chances of cold, such as an open window during the process of being put comfortable and having the bed made, be scrupulously guarded against.

Hot-air bath. Hot-air baths are frequently ordered for dropsy cases. A long cradle, or sometimes more than one if one of sufficient length is not available, must be placed in the bed, and the hot-air apparatus fitted in at or near the foot. The sheets and the patient's night-dress must be removed, and it is well to put a mackintosh beneath the blanket on which the patient is to lie, to ensure the bed or mattress being kept quite dry and clean. The blanket placed over the cradle must be

carefully tucked under the patient's chin and round the edges of the bed, the blanket covering the patient during the arrangement of the bed being removed and placed over, not under, the cradle, the whole being finally covered with a mackintosh, and arranged in such a way as to prevent the escape of the hot air.

The usual temperature of a hot-air bath varies from 100° to 120° Fahr., but 110° Fahr. is the general rule. In cases where a hypodermic injection of pilocarpine is ordered in conjunction with a hot-air bath, it should be given just as the patient is put in the bath, so that it takes its effect by the time that the bath is quite hot. This drug produces an excess of saliva, so when pilocarpine is given the patient's head must be turned on one side to prevent choking. During the time that the patient is in a hot-air bath it is often a relief to him to have a wet towel put round his head, and it will add to his comfort to have this wrung out in cold water and changed occasionally. Warm or cold drinks may be given to the patient to sip whilst the bath is going on. The usual duration of this hot-air or lamp bath, as it is sometimes called, is from twenty minutes to half an hour; but both time and temperature vary according to the cases and the views of the Physicians who prescribe this treatment, and a Nurse must endeavour to carry out the orders given in each case.

The lamp must not be blown out, as this is a dangerous proceeding. Electricity is often employed now instead of a spirit lamp. After the lamp has been removed, the patient should be allowed to perspire freely and to cool a little before being thoroughly dried with a warm towel. A warm night-dress should then be put on, and the moist blankets replaced with dry, warm bedding.

A warm bath prior to a hot-air bath increases the effect, but patients for whom hot-air baths are ordered are seldom in a condition to allow of this.

Cleansing bath.

Baths, both for medical and cleansing purposes, depend for their successful application upon the efficiency of the Nurse. Ordinary cleansing baths are usually given at a temperature of not more than 98° Fahr., but they may be given up to 102° Fahr.

Of course, a hospital patient must not be allowed to have a bath until the Sister has been asked; but, when there is no reason to the contrary, a bath is a quicker and more effectual method of making a patient clean and comfortable than the slower process of washing him all over, as a Nurse is frequently obliged to do.

A Nurse must *never* leave a patient alone in a bath if she is responsible. We have all heard of accidents at children's and other hospitals occurring from neglect of this rule. In warm baths some patients with weak hearts or in a weak state of health are apt to faint, and some are quickly depressed in cold baths, so that, however sure a Nurse may feel that no contingency of the sort is likely to arise, she has no right to run the risk.

Temperature of baths. The temperature of baths varies somewhat as follows: tepid baths, 85° to 92° Fahr.; warm baths, 92° to 98° Fahr.; hot baths, 98° to 104° Fahr.; 110° Fahr. would be very hot. A hot bath ranges from the temperature of the body upwards. The scale of temperature varies slightly, but this is about the usual average. I give these particulars for general guidance when a Nurse does not receive precise directions; but when hospital workers are in doubt about what is best for any case in the wards, they should always ask the Sister.

Use of bath thermometer. Let me strongly recommend every Nurse to get into the habit of using the bath thermometer on *all* occasions. Experience will give a tolerably correct idea of about what temperature the water is, but not unless the thermometer has been regularly employed, and thus enabled the Nurse to learn exactly what water feels like at the various temperatures recorded. Even then it is mere guess work, when absolute accuracy is attainable. The thermometer must be thoroughly immersed in the water for a few seconds before reading it, and not a little water scooped up just to cover the bulb (as some untrained Nurses consider sufficient), otherwise it will not give the true temperature of the full quantity of water. It is always best for a Nurse to be strictly accurate over every detail in which it is in her

power to be so, instead of having to report vaguely that it is 'about so and so.'

If no bath thermometer is to be had, a Nurse should not be satisfied to test the water merely by placing her hand in it. It is far better for her to put her elbow in the water; and she will find this a more effectual means of testing, in a rough and ready fashion, what degree of heat the rest of the body will comfortably bear.

Continuous bath. When a patient is ordered a bath for medicinal purposes, at a certain temperature, the Nurse is intended to *keep* the bath as nearly as possible at that temperature all the time the patient is using it. If a Nurse contents herself with giving it to the patient at the required temperature only to begin with, it is evident that she will not be carrying out her orders efficiently. To do this the Nurse must have a supply of hot water at hand to add from time to time, and she must take care to pour it in gently and slowly *by the side of the bath*, so that the patient may not fear being scalded. It is not sufficient to avoid actually scalding the patient. A careful Nurse will ensure that a nervous patient is spared the little anxieties involved in remedies of this sort if they are clumsily applied.

A Nurse must see that she has everything quite ready before disturbing the patient, so that he or she may not have the fatigue of waiting about and the risk of getting a chill. In this, as in many other things, a Nurse, who has a head and uses it, will save both her patient and herself a great deal of time and trouble.

Hot bath. As a hot bath induces perspiration, patients should have a blanket wrapped round them, and not be allowed to stay in a draught, or near an open window, neither should they be allowed to walk about the ward on any pretext whatever, until the immediate effect of the bath upon the skin has passed off. Unless specially ordered, a patient should not remain in a hot bath longer than eight or ten minutes.

Hip-baths are useful when it is considered desirable to immerse that part of the body only. When it is a hot hip-bath ordered for medicinal purposes, an even temperature

should be maintained, and a blanket thrown over the patient. People who have a feeble circulation are sometimes ordered to take a cold hip-bath and a warm foot-bath at the same time. Chills are always to be avoided.

Arm and leg baths. Arm and leg baths are much used now for septic cases, and special appliances have been invented and perfected for this purpose. A

Nurse must take care to place the patient in such a position that he may be as little fatigued and not more uncomfortable than can be helped. A small indiarubber pillow placed under the axilla affords great relief. It is better than any other kind of pillow, because it is waterproof and fits on to the bath. If an indiarubber pillow cannot be had, it is best to place a thin piece of mackintosh over an ordinary pillow, otherwise it absorbs the water from the bath, and conveys it straight in to the bed and bedding. This is a very inferior substitute for the proper indiarubber pillow, and the latter should always be secured, if possible. An arm bath is a tiring remedy for patients, owing to the length of time they are sometimes required to keep the limb immersed. In this case also the Nurse must maintain the temperature ordered.

Mustard bath. Mustard baths are sometimes ordered. The mustard must be put in a bag or tied up in a piece of flannel or linen after the fashion of a blue bag. The quantity of mustard varies according to circumstances, but the usual proportion is one tablespoonful of table mustard to one gallon of hot water. Of course, for a child the quantity of mustard would be less.

Medicinal bath. Sulphur, tar, and gluten baths are sometimes ordered, but for these a Nurse will usually receive special directions in each case.

The proportions used at the London Hospital for a tar bath are eight ounces of bitumen to thirty gallons of water. For a sulphur bath, six ounces of sulphur to thirty gallons of water. The sulphur should first be dissolved in boiling water and then added to the bath. If this bath is ordered for scabies, it is a good plan to use plenty of soft soap and a bath brush (avoiding any sore places), so as to get the sulphur well rubbed into the skin. For a gluten bath, six pounds of size should be mixed in a pail of boiling water.

This is then put into the bath, and hot water is added to make the quantity up to thirty gallons.

Effect of moist heat. The application of moist heat mitigates or removes the pain of colic ; it relieves spasms ; it takes down inflammation. Immersion in very hot water is said to relieve sprains. Hot water applied to the feet and legs sometimes removes headache. Sponging the head with very hot water will occasionally relieve severe headache when cold treatment altogether fails. The prolonged application of hot baths or any form of heat is weakening.

CHAPTER X

THERE are various forms in which heat can be applied locally as a remedial agent.

The effect of dry heat applied generally is to produce perspiration, and that is the object for which it is ordered, as, for example, a hot-air bath.

The object of dry heat, when applied locally, is to impart heat to that portion of the body with which it is placed in contact. The partial application of moist heat is ordered with a view of softening the skin, and thus relieving tension and pain. The early application of moist heat has a tendency to cut short inflammation, as many people may have noticed when a poultice has been applied to a bad finger directly it becomes painful. The effect of a poultice when applied later is to encourage discharge, and so to favour healing.

Dry heat for local application is usually ordered in the form of hot bottles, bricks, bags filled with hot salt, bran, hops, camomile, or other herbs, to impart heat to the place in question, and to relieve pain. The latter are not often employed in hospital practice, but the application of hot-water bottles, bags, or tins, is of constant occurrence, as they are in daily use both in medical and surgical wards. A form of dry heat is sometimes ordered to relieve painful joints. Hot sand is placed in a vessel of the required shape and size, and the joint is well covered with it.

Another form of dry heat which relieves pain is a flannel bag filled with hot bran or salt. The bran or salt, whichever is preferred, must be baked in an oven or placed in front of a fire until it is thoroughly hot. The advantages of this over a moist application are that a patient can move it about as he pleases, without making bed or bedding damp, and it retains the heat longer. In most cases, however, for acute

pain, fomentations and poultices are more frequently prescribed.

If a bran poultice is ordered, the bag of bran can be saturated with boiling water and pressed sufficiently dry between two boards, or a poultice-board and a rolling-pin.

Hot fomentations. Moist heat is usually applied locally in the form of fomentations and poultices of various kinds.

Fomentations are preferable to poultices, on the ground that they are cleaner of application, easier made, and easier borne by the patients; but the drawback is that they do not retain the heat nearly so long. The best material to use for fomentations is coarse flannel, or soft old blankets.

A wringer, made like a small roller towel, should be placed over a bowl, with the two sticks ready in each side of it, and the flannel placed ready for boiling water to be poured on it. It must then be wrung out as dry as it is possible to make it by turning the sticks rapidly in opposite directions, and keeping them as far apart as the size of the wringer will permit. Then untwist and slip out the sticks as quickly as possible; give the fomentation flannel a good shake, and place it lightly on the patient, covering it up with mackintosh or other waterproof material, which is placed over the fomentation with the twofold object of retaining the heat and keeping the patient dry. Nothing is so excellent for this purpose as spongio-piline. The soft side absorbs the moisture from the flannel, and the waterproof side keeps the damp from coming through. To render it quite effectual, the edges should be bevelled inwards, so that the waterproof portion completely covers the whole. This should be placed before the fire to keep it warm, ready for use, while the fomentation is being prepared. Fomentations to be effectual should be changed every ten minutes or quarter of an hour. I am sure any one who has ever experienced the relief they give in severe pain will be of this opinion. Another flannel must always be wrung out ready to replace the cool one, that the patient may not be uncovered twice, nor kept waiting while the same flannel is made hot. The cool flannel and the wringer must be hung up to dry in readiness for the next application, for it is

obviously inefficient to have a cold, wet wringer to use when the fomentation has to be renewed. This appears a trifling detail to mention, but experience shows that some Nurses are careless in this respect. It is not absolutely essential to use sticks for wringing out the fomentation if the wringer is rather long, but a comparatively short wringer with sticks renders it easier to make it thoroughly dry, and for a large fomentation Nurses will find the use of sticks a great advantage. Fomentations are uncomfortable and of no service if allowed to remain too long without changing.

How to make poppy-water. Sometimes fomentation flannels are ordered to be wrung out of a decoction of poppy heads, or other herbs, instead of boiling water. In this case they do not require changing quite so frequently. To make this poppy-water, the following is a good recipe :—Take four ounces of dried poppy heads, break them to pieces, and empty out the seeds ; then boil the *shells* in three pints of water for a quarter of an hour ; strain, and keep the water for use.

Mallow water and camomile flower water are made in the same way, and frequently camomile blossoms are boiled with the poppy heads. Sometimes a few drops of laudanum or tincture of belladonna, or ether, or chloroform, are ordered to be sprinkled upon the fomentation flannel after it is wrung out, for the purpose of relieving pain.

Turpentine stoup. Turpentine is occasionally ordered to be sprinkled on the flannel. This is usually spoken of as a turpentine stoup. Before the boiling water has been poured over the flannel, the turpentine should be sprinkled on, and the fomentation then wrung out. Unless distinct orders are given, a drachm is the usual quantity ; but a Nurse must use her own judgment and remember that turpentine is a powerful irritant, and that it is necessary to be both careful in the application and watchful in the use of it, especially with old people and children. It will break the skin very quickly if it is carelessly applied. It is a good plan to apply a little olive oil on the reddened surface when removing the turpentine stoup. A Nurse must never forget that the aim of skilful Nursing is to carry out orders efficiently, without causing

one moment's *unnecessary* pain or discomfort. Spongio-piline or a double layer of lint will form a good substitute for flannel when the latter cannot be had ; but coarse white flannel is generally considered the best and most comfortable material for the purpose when it can be obtained, covered with spongio-piline, if possible, instead of mackintosh, and some warm cotton wool over that.

When a Nurse is briefly told to apply a poultice, and no further particulars are given, she must take it for granted that it is to be made of linseed-meal, and in hospitals this is generally spread on tow instead of linen.

**How to
make a lin-
seed-meal
poultice.**

To make a linseed-meal poultice properly, the following articles are required. A poultice bowl, a jug, a poultice spatula, a poultice board, and a little olive oil, in addition, of course, to boiling water, linseed-meal, and the tow or linen. A broad flannel binder, to be fastened with safety pins, is preferable to a rib bandage, as it can be applied and removed with less fatigue to the patient. A little boiling water should be poured into the poultice bowl, and the blade of the spatula be placed in it while the Nurse prepares the tow. A verbal description of how to prepare the tow will scarcely give a very clear idea of it ; but Nurses are shown this when their practical training begins, the object, of course, being to make it smooth and of an even thickness. The water which has been warming the poultice bowl ready for use, should next be poured into the jug, and the spatula put in it to get warm. Boiling water sufficient to make the sized poultice required should be poured into the warm poultice bowl. Only observation and experience can teach a correct estimate of the quantity, but this is soon learnt. The Nurse should then take linseed-meal in her left hand, and sprinkle it freely into the water, rapidly stirring with the right hand in one direction all the time. The poultice should be made of the consistency of porridge, just thick enough to be cleanly cut with the spatula. It must then be rapidly spread on the tow, and the spatula should be frequently dipped into the jug of hot water, partly to prevent the poultice sticking to the spatula, and also to make it spread smoothly.

Different opinions prevail as to what the thickness of a linseed-meal poultice should be. About half an inch thick is the general rule. A Nurse must endeavour to avoid the two extremes of making the poultice too thick and heavy, which is very objectionable, and of making it too thin, so that it does not retain the heat.

A Nurse must leave a border of tow, or of linen, if she is making the poultice on that material, all round, which must be lightly rolled back upon the poultice, and a little olive oil may be sprinkled and smoothed over it to prevent sticking, and to cool the surface. Even without the oil, if the poultice has been properly made, and the spatula dipped in hot water passed lightly over it, it should never stick, either to the patient, or to itself when folded together. A Nurse will always know that her poultice falls short of perfection if it adheres to the skin in the least. For children it is always best to use a little oil, because the cool surface enables them to bear the poultice applied warmer than they can do otherwise.

Poultices should be put on as warm as the patient can comfortably bear them, unless contrary orders are given; but great care must be taken not to scald, and the Nurse must be ready at once to remove a newly-laid-on poultice if the patient complains. It must also be remembered that frequent applications to the same place make the part tender, so for this reason it is probable that the patient may not be able to bear repeated poultices quite as warm as the first. Always *make* them as hot as possible, for they cool rapidly, and a poultice put on cooler than it could comfortably have been borne is not satisfactory. A poultice must never be put in an oven to keep hot; it only dries and hardens it, rendering it quite unfit for use. If it happens that a Nurse is unfortunately obliged to keep it waiting before using it, she should place it between two hot plates over a saucepan or kettle of boiling water, but even this should never be done when it can be avoided.

Changing poultices.

The patient must always be prepared as much as possible before the poultice is made, but without removing the former poultice until the fresh one is there ready to put on. In surgical

cases, where the wound requires washing, that should be attended to, the poultice removed, and the part covered with wet lint to keep the air from it while the fresh poultice is made ; but I am speaking more particularly of medical poultices now, and not so much of those which come under the head of dressings.

For instance, in bad chest cases, where perhaps a large jacket poultice made in two parts may be ordered, a Nurse must take the precaution to have the fresh binder ready for use and close at hand before she begins to make the poultice, taking care to replace the poultice, covering one-half of the chest before removing the other part, and thus avoiding the risk of chill. When nurses have learnt to be very quick, and the patient is not too exhausted to bear it, it is a good plan to wipe over the place where the poultice has been applied very gently and rapidly with a small piece of lint or cotton-wool, because the air coming to the moist surface gives it an uncomfortable itching sensation ; but the Nurse must not let her patient and the poultice get cold together while she is interesting herself with picking off any little dry bits that may have adhered to the patient !

For medical cases, where there is no wound, a piece of thin mackintosh, or other waterproof material, should be placed over the poultice, because it will keep it moist and warm for a much longer period, and thus save the patient the fatigue of having it changed so often. Gutta-percha tissue is not a suitable material for this purpose, although it is waterproof, because it shrivels up with the heat and smells objectionable. Poultices applied in this manner require changing at least every four hours, and would need to be renewed oftener but for the covering.

Large poultices keep warm for a much longer period than small ones, so that in making small poultices a Nurse must be particular that everything she uses is thoroughly warmed, and she must remember that they will need to be renewed more frequently. It is a good plan to change large poultices every four hours, and small poultices every two hours, when no orders are given. When a Doctor has ordered the local application of moist heat in the form of fomentations and poultices, it is an advantage to the patient if the treatment

is kept up actively while it continues. As a rule these remedies are prescribed to afford immediate relief. Of course, when orders *are* given, a Trained Nurse has only to carry them out, whether they happen to accord with her own views and previous experience or not.

**Cotton-
wool
jackets.**

When chest poultices are left off, it is best to let the patient wear a cotton-wool jacket. A jacket made of gamgee tissue is lighter and more convenient for changing if the material is at hand.

On the rare occasions when poultices are applied to wounds they must not be covered up with mackintosh, and all surgical poultices must be very light, and the size carefully adapted to the requirements of the case. If they are ordered for the purpose of bringing forward an abscess, they should be as warm as the patient can comfortably bear them, and frequently renewed.

A few drops of laudanum sprinkled on the surface of the poultice is often very effectual for soothing pain; but, if ever this is ordered for children, a Nurse must be especially careful never to exceed the quantity prescribed. It cannot be too strongly impressed upon Nurses that children are peculiarly susceptible of the influence of this drug, and can never bear its application in any form in anything approaching the same proportion as adults. Also it must be noticed and at once reported, if laudanum brings out a rash on a patient, as sometimes happens. This rash is a very irritating one.

Sometimes linseed-meal poultices are made with a decoction of poppy heads or other herbs, instead of boiling water, and that often affords relief in severe pain. Linseed-meal poultices are always placed next the skin, and should never have a covering of muslin, nor anything else between.

In applying poultices to paralyzed or dropsy cases, the same warning which I have given in reference to hot-water bottles must be remembered; I mean, the extreme liability of these cases to become scalded on the application of any hot substance at a temperature not sufficiently high to produce a similar result in other conditions of the body.

Charcoal poultices. Charcoal poultices are occasionally ordered for a wound where there is a great deal of foetid discharge. The simplest method of making them is to mix one part of charcoal with two parts of linseed-meal, and then make the poultice in the ordinary way. This is cleaner and more effectual than sprinkling the charcoal on the surface of the linseed-meal poultice, as is sometimes done. The same object is attained in a much cleaner and nicer way by mixing linseed-meal with boiling coal-tar lotion instead of water.

Bread poultices. Some skill and practice is required to make a good bread poultice, for it is apt to become either heavy, lumpy, and sloppy, or dry, hard, and sticky. The best method of preparing it is first to get a sufficient supply of bread crumbs, and then stir them into the boiling water exactly in the same way as linseed-meal, stirring and beating it rapidly all the while. Then cover it up with a plate or saucer, and leave it by the fire, or, better still, over a kettle of boiling water for about five minutes, to give it time to swell. Then spread it on linen—never on tow—dipping the spatula into hot water to prevent sticking, and turn up the outside margin of linen in the usual way. Some olive oil, or simple dressing is needed to spread on the surface—the latter *looks* best, but either will do—because bread has a great tendency to stick, and it hurts very much if dry, hard, little pieces have to be picked off the edges of a wound.

Bread poultices cannot be rolled up in the same way as linseed-meal, nor folded up to take to a patient, or they will break and fall to pieces. They are applied either hot or cold, according to orders. It will save time and trouble if a sufficient supply is made for two or three poultices, as the preparation does not spoil unless it is left long enough to turn sour, and it can easily be warmed afresh over a kettle of boiling water, or by the addition of a little hot water to the soaked bread. Bread poultices are placed next the skin.

Mustard poultices. Mustard and linseed-meal poultices are frequently used. The best method of making them is to mix the mustard first with a very

little cold water, then add it to the boiling water with which the poultice is to be made, and see that it is thoroughly mixed before adding the linseed-meal in the usual way. By this means the risk of the mustard remaining in patches to irritate the skin is avoided.

But, in recommending this plan, I must be careful to explain that the mustard can only be mixed with boiling water when the object is to secure a diffused redness over the whole surface to which the linseed-meal poultice has been applied, and not when it is desired to produce the maximum irritating effect for which mustard plasters are prescribed. A lesser and sufficient irritation is effectually produced in the manner described, and the discomfort of the mustard stinging in little patches is thus prevented. The reason why mustard should not be mixed with boiling water under other circumstances was clearly explained to me by an eminent Physician. He said—

‘The value of mustard as an external application is due to volatile oil, which does not pre-exist in the mustard, but is produced by the action, when moistened, of a body called myrosine on another body called myronic acid: The myrosine acts like a ferment on the myronic acid, and *produces* the oil. Hot water, and especially boiling water, coagulates the myrosine, prevents its action on the myronic acid, and fails in *producing* the oil, or at any rate diminishes its formation.’

It is, therefore, not difficult to understand why mustard must never be mixed with boiling water when its *maximum* effect is desired.

If poultices are ordered for a continuance, and the skin appears likely to break in places, a Trained Nurse must carefully cover these places with very small pieces of lint or linen, spread with zinc ointment or simple dressing, before applying the poultice, and then the patient will not be obliged to discontinue remedies which may be deemed necessary for his case in consequence of the local discomfort.

Mustard plasters. Mustard-leaves that are procured from a chemist are nearly always used now in preference to plasters, but they are a great deal more painful. When mustard plasters have to be prepared,

they are made with mustard mixed to a paste with cold or tepid water. A little flour may be added, but not necessarily so. It is sometimes desirable to precede a mustard plaster with a linseed-meal poultice, or to bathe the part to which it is to be applied with very hot water, in order to make the mustard plaster produce its maximum effect.

Some people and books tell us that mustard plasters are best made on brown paper, covered with brown paper or muslin. I prefer tissue paper entirely. Several folds of tissue paper make a sufficiently thick and satisfactory background for spreading the mustard on, and one piece of tissue paper folded over the surface can be neatly doubled back over the edges. Tissue paper is better than muslin, as the mustard cannot so readily get through. Mustard plasters are *not* placed next to the skin, and must not be made too wet. They should be fastened on with a piece of strapping to keep them in place, and covered with a little cotton-wool to absorb any moisture, and to prevent any soiling of such clothes as may come in contact with them. A Nurse must not allow the plaster to remain on long enough to break the skin or to raise a blister, and she should be specially careful in this respect with children and old people. With these cases it is best to remove the mustard plaster rather quickly, and to replace it by a linseed-meal poultice for a time, which will render the mustard application effectual without the risk of a troublesome sore. As a rule, a Nurse should have a piece of linen spread with simple dressing or zinc ointment ready to put on when she removes the plaster, as it relieves the burning, tingling sensation, and she should then replace the cotton-wool over it.

A simple plaster for outside application in cases of tooth-ache, or when some counter-irritant is likely to give relief, is made by soaking a piece of thick brown paper in vinegar, and then shaking over it some coarse pepper. The more pepper used the more it will burn. The advantage of this 'old woman's remedy' is that it does not mark the skin, and it can be left on for any length of time, so that a patient need not be disturbed from sleep to remove it.

CHAPTER XI

Counter-irritation.

By counter-irritation is meant the application of an irritant, sufficient even to produce inflammation to the surface, in order to counteract a deeper-seated inflammation.

Different degrees of counter-irritation.

There are different degrees of counter-irritation. First, a mere increase of vascularity, *i.e.* the drawing of an increased supply of blood to the surface, which is one of the results of a hot application. As the normal amount of blood in the body remains to all intents and purposes the same in ordinary circumstances, the drawing of this additional supply of blood to the surface involves the withdrawing of it from some interior organs. This object may be attained to some extent by the application of poultices and fomentations only, or aided by the addition of turpentine, etc., to these. The same object can be attained to a greater extent by dry cupping, and to a still greater extent by wet cupping and leeches, which involve the withdrawal of a certain amount of blood, not only *to* the surface, but *from* the body altogether.

The second degree of counter-irritation may be an increase of vascularity, combined with a certain amount of inflammation. A mustard plaster is a good illustration of this. It not only increases the vascularity of the part to which it is applied, but renders it very sensitive, and sets up a certain amount of inflammation of the surface at the same time.

Two kinds of cupping.

Cupping is of two kinds—dry and wet. It is resorted to somewhat less frequently now than it was in former days, and is not very often done by the Nurse. An indiarubber mat of any kind is excellent material with which a Nurse may practice dry

cupping, in order to become proficient in an art which she will rarely have the opportunity of putting into practice. The indiarubber rises up in the glass just in the same way that the patient's skin does when the warm glasses are applied. But Trained Nurses must be competent to do dry cupping, if ordered to do so.

Dry cupping. There are glasses of various sizes made for the purpose. First exhaust the air from the glasses by holding them over the flame of a small methylated spirit lamp for a few seconds. The Nurse's finger should be dipped in oil or vaseline and passed rapidly round the edge of the glass before it is applied. This cools the edge of the hot glass before placing it on the patient, and facilitates its removal subsequently. The warmed glass is placed quickly on the selected spot, and gently pressed on it, so that the edges may fit closely to the surface, care being taken not to heat the glass too much, lest the patient should be scorched. The flesh will then rise within the glass. The glass can easily be removed by inserting the nail of the thumb under the edge and pressing the skin downwards. This is known as 'dry cupping.'

The usual site for wet and dry cupping is the loins, just over the kidneys, and it is generally used for inflammation of those organs ; but it is also of service in relieving pain in other regions.

Wet cupping. Wet cupping is now almost obsolete. It is performed in a similar manner to dry cupping, except that the glass is removed and a scarificator (a small surgical instrument) immediately applied to the part, and then the glass at once reapplied, as before. The hæmorrhage can be readily stopped, when desired, by a pad of dry lint.

Leeches. Leeches are used for the purpose of taking away a small quantity of blood. They must never be applied over any large blood-vessel. Sometimes it is difficult to get them to bite at all, or to make them fasten on the desired spot. The part must be washed perfectly clean with soap and water, and this is usually a sufficient preparation. If they will not bite, the part should be moistened with a little milk or sugar and water, or a little

prick or scratch be made, so that a drop of blood will exude upon the surface.

The less the leeches are handled the better. If not applied in water they are best wiped dry with a soft towel.

If a leech has to be applied close to the eye, or particular orders have been given as to the exact spot upon which it is desired to fasten, a Nurse must stuff a test-tube half full with cotton-wool, and then put the leech in. If a leech is put into this small compass, a Nurse must see that its head and not its tail is at the mouth of the tube, otherwise, as it has not room to turn round, there will be no possibility of its fulfilling its mission !

When the *exact* spot is not indicated, and the locality where the leech is required is near a bone, it is best to apply it over the bone, because if there is any difficulty in arresting the bleeding afterwards, pressure can be more effectually applied.

When the leeches have once fastened to the required spot they must be left undisturbed. When they have finished they generally drop off ; but, if any of them should remain sticking an unusually long time, they must never be forcibly pulled away, or the teeth may be left in the wound. If it is necessary to do anything, a little salt sprinkled on them will cause them speedily to relinquish their hold.

Each leech is said to obtain rather less than one drachm or teaspoonful, but following the leech with warm fomentations will materially increase this quantity if desired. If, on the other hand, there is any difficulty in arresting the bleeding, the pressure of the finger, a little dry linseed-meal sprinkled on the surface, a small pad of cotton-wool or dry lint, a cold compress, or a little ice—any one of these things will probably be sufficient to stop it. If the bleeding persists after trying these remedies, a little tincture of iron diluted, or a point of caustic inserted into the leech bites, is generally effectual. A Nurse would not apply these without orders from the Doctor, unless she were nursing a case in which it was not possible to obtain his assistance.

In most cases, where no special orders are given, when the leeches are removed it is best just to wipe over the wounds with a bit of sterilized cotton-wool, and to leave a piece over

the place. The wool will absorb any slight bleeding that occurs, and is comfortable for the patient. The Nurse must see occasionally that no bleeding is going on, for it may do so to a considerable extent before the patient is aware of it. The Night Nurse must also watch for bleeding after leeches, not that it is likely to occur, but cases *have* happened where serious harm has been done from the bites bleeding profusely during the patient's sleep. Some persons have a peculiar tendency to bleed freely, and it is well that all Nurses should be aware of this, in case they should meet with any instances of it in their own experience.

Some Nurses and some patients have a particular dislike to leeches, and feel quite afraid of them, while others, on the contrary, do not mind them at all. Nurses who have this dislike must endeavour for the sake of the patients not to show it, and must be careful not to make them nervous. Nurses who do not feel this horror for leeches must not be unmindful of the feelings of those who do. The instinctive horror which some people have of these harmless little creatures is by no means nonsense or affectation ; it is a kind of innate aversion which cannot easily be overcome.

After the leeches have been used they must be put with a little salt, which will cause them to vomit the blood. They can then be placed in fresh cold water, which will require changing occasionally.

Blisters. The third degree of counter-irritation produces true inflammation, amounting to a blister. Blisters may, of course, be produced by the careless administration of almost any hot application. Even if an accident of the sort is not attended with any special harm to the patient, that does not exonerate a Nurse from blame if she has produced a blister by the careless or thoughtless way in which she has applied an agent which was only intended to act as a counter-irritant in a minor degree, or perhaps not designed to procure that effect at all, because poultices and fomentations are more frequently ordered for other purposes. Stronger measures are used when counter-irritation is desired.

Blisters, as such, are produced by painting with a blistering fluid. The ordinary blister plaster is seldom used in

these days, for when the fluid begins to accumulate under the cuticle, the sticking of a blister on the skin round the part where the blister is placed greatly increases the discomfort. For this reason it is best not to apply a blister plaster with strapping, or, at any rate, there should be only one piece to keep it in place, and it should be covered with some cotton-wool. If the blister has been applied on a plaster, it must be removed very gently when the cuticle has risen, for the part will have become *extremely* tender. Before painting with the blistering fluid, it is a good plan to define the extent of surface which the blister is intended to cover with a slight outline of olive oil. This, with a little care, has the happy effect of preventing the blistering fluid from spreading beyond the desired spot. Nurses have often to learn, at the cost of some discomfort to the patient, that if even a little of the fluid runs down by the side of the place to which the blister is being applied, wiping it rapidly does not prevent the irritation extending to every spot with which the fluid has come in contact. It is especially useful in the case of children to employ the oil, and to prevent any accident of the kind, though blisters are a form of treatment which it is scarcely ever deemed advisable to apply to children.

There are cases in which the oily matter of the skin prevents the blister from rising. This difficulty, in the rare instances in which it occurs, can be overcome by wiping the place to which the blister is to be applied with a little ether. The time a blister takes to rise varies in different people and in different parts of the body from six to twelve hours, but the Nurse should watch its progress from time to time. Sometimes the blister is very slow to rise, and then a warm poultice should be applied over it, which will materially aid the process. The exact spot and extent of the blister should be definitely ordered by the Doctor, but sometimes the order is given so vaguely that a Nurse is rather puzzled what to do.

It may be useful for Nurses to know that blisters applied to joints are more effectual if placed in the region of the joint, and not immediately over it. Thus, a blister for the hip-joint is most effectual if applied in the region of the groin; for the knee-joint if applied in the shape of two

half-moons above and below the knee-cap ; for the ankle if put between that joint and the heel, and so on.

**How to
dress a
blister.**

To dress the blister a Nurse must place a small receiver, or, if the blister is very small, a towel or a piece of lint or cotton-wool, close underneath to receive the fluid, and then make a snip with a pair of sterilized scissors at the most depending part of the vesicle. She must press very gently over the raised cuticle, and see that all the serum comes out. After this, the dressing must be applied over the inflamed surface without removing the cuticle. A piece of lint or linen spread with simple dressing, olive oil, vaseline, oxide of zinc or boracic ointment, is usually employed for this purpose. A Nurse must be sure to have it ready, and not to keep the patient waiting while she goes off to fetch it. The part will generally heal rapidly. It must be kept clean, and the dressing must be renewed twice, or more if necessary, in the twenty-four hours.

**How to
keep a
blister
'open.'**

If it is desired to keep the blister 'open,' which is *very rarely* the case, the raised cuticle should be removed with a pair of sterilized scissors, and the place dressed with the irritant application ordered ; but a Nurse must be careful that this is the *exact size of the sore*. A piece of lint, spread with simple dressing or oil, a little larger than the sore, should be placed over the irritant application, and strapped on to keep it in place. The wound must be kept clean, and the dressing reapplied daily until further orders.

**Surgical
dressings.**

In a surgical ward, when the general ward-work is finished, the next thing a Nurse has to think about is getting the dressings ready. There are so many kinds of dressings in various degrees of favour with different Surgeons that it would be impossible to speak of all of them, but I will refer to a few of those in most general use.

A Nurse must see that every case has placed beside the bed a sealed tin box containing the necessary sterilized dressings, in readiness for the House Surgeon or Dresser. In a well-managed ward the House Surgeon should never have to wait for the dressings, except when a Nurse cannot

know beforehand what is required. Uncertainty as to what the Surgeon may decide to do does not alter the fact that it is a Nurse's business to have everything in her department quite ready.

In children's wards, or in cases where patients are delirious, or not quite responsible for their actions, a Nurse must take care that the waiting dressings are not left within their reach.

There is great scope for careful observation in the preparation of dressings. Some Nurses need to be shown the same thing over and over again, while others, more intelligent and more careful to notice for themselves, need only to be told once what things will be required for doing different dressings.

Nurses must carefully cultivate for themselves any little habit of finish or neatness which strikes them in the way they see others doing a dressing. Very soon, from sheer custom, it will become awkward to them to do these things in a less efficient manner.

Every Nurse should provide herself with a pair of dressing forceps, scissors, and safety-pins. She must accustom herself to use sterilized forceps and not her fingers for touching wounds or soiled dressings. Nurses should never forget how quickly the worst forms of poison may be taken into the system by leaving uncovered the tiniest pin-prick on their fingers. When touching wounds, or dressings which have been in contact with them, it is scarcely possible for a Nurse to be too careful of her hands. It is an excellent plan to fill the nails with soap. She must also be extremely cautious not to put her fingers to her face, her eyes, or mouth when doing dressings until she has washed her hands. Many Nurses have paid a severe penalty for carelessness in this respect.

It need scarcely be said that Nurses must most thoroughly cleanse their hands and nails, not only before and after doing a dressing, but before handling dressings. They must be extremely careful where they place dressings, both in storing them for future use, and in preparing them for immediate use. It is a slovenly habit to place bundles of dressings on a patient's bed, and unpardonably careless and

wasteful to unfasten a bundle of cotton-wool and just pull a little piece out when it is wanted.

When dressings have to be taken from their wrappers to be cut the required shape and size, a clean mackintosh must be spread on the table used for this purpose. If a Nurse is called away in the midst of preparing dressings, she must cover them up carefully with the mackintosh, and must not go back to complete her task before she has carefully prepared her hands again.

Economy in using surgical dressings. Nurses cannot begin too early in their career to cultivate economical habits in reference to surgical dressings. Most of them will be astonished to find what a serious item these are in the expenditure of every hospital. The large quantities constantly required create a tendency to extravagance on the part of those who handle them, against which conscientious workers will take pains to guard themselves.

Nurses would do well to acquaint themselves with the cost of the various dressings in common use, as occasionally it will be in their power to use the cheaper dressing, without detriment to the patient.

In cutting dressings for the Surgeon's use, a careful Nurse will find that she can use up the rough edges and little scraps of wool satisfactorily, for cleaning patients' mouths or other purposes for which they are frequently needed.

In Private Nursing the supplies of surgical dressings are usually much more limited. It is the duty of a Nurse to study economy in this respect in every way consistent with the patient's welfare and comfort.

In doing dressings herself, or in preparing them for the House Surgeon, a Nurse must be quite sure that she has everything ready before the dressing is begun. A Nurse cannot be considered 'trained' while she has to leave off in the middle of doing a dressing to fetch what she should have known beforehand would be required. An empty receiver, ready for the soiled dressings, must always be at hand. Soiled dressings must never be thrown about, even for an instant, but put straight into the receiver when they are taken off the wound.

**Washing
septic
wounds.**

Sometimes an irrigator is used for washing septic wounds; sometimes a glass syringe; and sometimes an ordinary syringe with a glass nozzle fitted on to go in the wound. The irrigator or syringe with the tubing and nozzle, must be sterilized by boiling in water to make sure that it is absolutely clean and free from infection. It is important to remember in sterilizing syringes with glass barrels that the piston must first be removed from the barrel. If this is forgotten and the sterilization done with the piston left inside the barrel, the latter is almost certain to crack.

Some cases are simply washed with sterilized swabs. The one thing which must never be used for this purpose is a sponge, on account of the difficulty of effectually cleansing it. In private cases the objection to this is lessened, because, as it would be employed for the one case only, there would be no risk of taking any poison from one wound to another, and in such a case the sponge would be kept soaking in some disinfectant. Most Surgeons would strongly disapprove of a sponge, and when a Nurse has accustomed herself to using swabs she will certainly prefer it.

Nearly all septic wounds are cleansed with warm sterilized water, to which some disinfectant has been added. A Nurse must remember never to dip the swab which is soiled with discharge into the basin or the receiver which contains the water or lotion with which the wound is being washed. The next time she wipes round the wound neither the swab nor the water would be perfectly clean. A Nurse must take a swab, soak it in and wring it out of this water to which the disinfectant has been added, and, when she has used it, she must put the dirty swab into the receiver which contains the soiled dressings, and take a fresh swab each time, until the washing process is finished. It is better to have any material used, sterilized.

For washing a septic wound, a Nurse must place a dressing tray, a receiver, or a small basin, whichever appears most convenient, under the limb, so that there may be no difficulty in keeping the bed and the patient dry. Soft, sterilized towels are usually employed. A mackintosh also is often wanted for this purpose.

In washing septic wounds, a Nurse must avoid *touching the edges*, as that gives the most pain. She must wash *round* the wound gently and firmly, *towards* and *not away from* the centre of the wound. If it is necessary to touch the surface at all, she must do it lightly.

The stains of ointment, etc., are best taken off by a quick, circular movement. The marks of strapping can be removed with a little ether, chloroform, oil, or turpentine. In using either of these things, a Nurse must keep it carefully away from the wound, and must remember that either chloroform or turpentine is apt to blister sensitive skin. A Nurse must handle all inflammable materials with due care that they do not come in contact with any artificial light or the fire.

A Nurse must never let a patient be more exposed than is absolutely necessary for doing the dressing. She must see that the windows are closed, and that the patient is comfortably covered up and not running any risk of taking cold, otherwise the patient is apt to get erysipelas. The wound *must never* be left uncovered. If it has to be cleaned preparatory to applying a fomentation or a poultice, it must be covered up with a little piece of wet lint or linen while the Nurse is getting the fomentation or the poultice ready. This warning—never to leave a wound uncovered—is especially necessary in the dressing of burns. In those cases it is most important not to expose the whole or much of an injured surface at one time. The old dressings must be removed, and the new ones allowed to replace them by very careful degrees, not all at once.

Dressings must never be removed roughly when they are adherent to a wound. They often become very stiff with blood and discharge, and in that case they must be thoroughly saturated with lukewarm sterilized water, before they are touched, so as to avoid tearing open the wound, or breaking down any union which may have taken place. A Nurse must be very gentle in removing dressings, not only to prevent hurting the patient, but for fear of the harm she may do by any carelessness (see p. 80).

When ointments or liquid dressings are ordered to be

applied to sores, a Nurse must remember that it is useless to apply them over hard, dry scabs. These must first be removed, and the process of getting them off will be much facilitated by the free application of oil, which softens them. Sterilized forceps—*not fingers*—must be used for this purpose.

The hair must always be cut quite close near any wound or sore place, as it will interfere with the dressing.

All aseptic dressings should be kept in air-tight boxes. Greasy dressings should be kept in glass or enamelled tin boxes, because they are easier to wash and to keep thoroughly clean. When these greasy dressings are wanted, they must always be cut and put neatly in the dressing-trays, so that they can be readily handed to the Surgeon.

In preparing large quantities of zinc or boracic dressing, it will greatly facilitate the process of spreading the ointment if the spatula is frequently dipped into hot water. The water will not mix with the grease of the ointment, and the hot blade of the spatula will spread it more quickly and smoothly.

Zinc and boracic dressings must always be kept spread ready for use, and where dust cannot reach them. Nurses must not get into the habit of putting a little ointment on a piece of lint just when it is required, for this is wasteful, and the application is not in such good condition for use.

When zinc or any other stimulating dressing has to be applied, a Nurse must remember that it is intended the application should be the exact size of the wound, *not spread over the edges*, as may be done with simple dressing. Over this a larger piece of lint or linen, spread with some non-irritating ointment, must be placed.

‘Scott’s dressing’ is harder to spread than zinc ointment. It facilitates the process if the Nurse repeatedly dips the spatula in some very hot water. It must be kept by the Nurse spread on lint, cut into strips ready for use. It is usually ordered to be applied to joints, *i.e.* strips of the dressing wound over the joint, and then covered with strips of strapping.

A cold compress and some lotions (not evaporating) must be applied on a piece of lint folded double, and covered with

a piece of gutta-percha tissue, oiled silk, or jaconet (pink mackintosh), which must be cut a little larger than the dressing, so as to completely cover it. Two pieces of lint must be used for this purpose, that one may be soaking in the cold water or lotion ready to replace the other when it is taken off dry and warm.

In most hospitals (including the 'London') lint is used with the plain side towards the patient, and ointments are spread upon that side. The best plan for a Nurse is always to follow the custom of the hospital in which she is working. It is difficult to say which is right, as both have been approved by good authorities, who happen to differ on the subject.

In preparing boracic fomentations, if boracic lint is used for the purpose instead of wringing out ordinary lint in boracic lotion, care must be taken only to pour on sufficient boiling water to wet the fomentation. If too much water is used, it washes all the boracic away from the lint. Boracic fomentations must be renewed frequently to be of real service. They must not be wrung out too dry.

Cyanide dressings are treated with cyanide of mercury, and are coloured a pale heliotrope.

Boracic dressings are coloured a pale pink; iodoform dressings a pale primrose. Iodoform powder is still used in some hospitals, as well as preparations of iodoform lint, wool, and ointment. White gauze is useful for plugging.

Sterilized gauzes are applied next to the wound.

When wood-wool is employed, the pads must be made of even thickness and covered with white gauze.

Cellulose wadding is not treated with any disinfectant. Its chief merit is that it is very absorbent. It is rendered aseptic before using by sterilization.

Sterilization of dressings. The process of sterilization of dressings as carried out in the London Hospital is briefly as follows :—

The dressings packed loosely in metal boxes furnished with tightly fitting lids, are placed with the lids open in a sterilizer, where they are subjected for 20 minutes to steam at a pressure of 15 lbs., and at a temperature of 250° Fahr.

The dressings are dried by means of the heated outer shell of the sterilizer, and by an exhaust pump which carries away the steam from the dressings. Before the boxes are removed from the sterilizer, their lids are securely closed and sealed with paper bands, bearing the date of the sterilization. Nurses must see that these paper bands are intact, for when the box has been opened and the contents exposed to the air, the remainder of the dressings must be re-sterilized if they are used on an occasion when strictly sterilized dressings are required.

When hospital sterilized dressings cannot be obtained the sterilized dressing may be freshly prepared by packing loosely in a perfectly clean kitchen 'steamer,' and steaming over a saucepan of briskly boiling water for an hour—the steamer and dressings being subsequently placed to dry in a hot oven.

Sterilization of instruments. Instrument sterilizers are metal vessels of convenient shape, heated either by gas, electricity or steam. They are fitted with perforated metal or wire trays to facilitate the removal of the instruments.

In sterilizing instruments for or after an operation or dressing, a Nurse must place rather more than a pint and a half of water in the sterilizer and add about a drachm and a half of soda—the right proportion being one drachm of soda, ordinary washing soda, to a pint of water. She must let this boil for one minute to thoroughly mix, and then put in all except the more delicate instruments, such as knives, needles, or scissors. The instruments must be boiled for five minutes, taking care that they are entirely covered by the solution, and then placed in a tray containing 1–60 carbolic. Some Surgeons prefer sterilized water only, others like their instruments dry and laid on sterilized towels.

Nurses must remember that Surgical Instruments are very delicately tempered, and that prolonged boiling beyond the five minutes necessary for sterilization is very injurious to the instruments.

Knives, needles and fine instruments must be placed in separate small trays, or held in forceps, and kept in the hot

soda solution, just off the boil, for three minutes. They are then kept in small trays containing alcohol, or 10 per cent. lysol in methylated spirit.

Electrical Instruments such as cystoscopes, urethrosopes, trans-illuminating lamps, etc., must never be boiled. That part of the instrument only which comes in contact with the patient must be rubbed with a sterilized swab, and 1 in 500 biniodide in spirit, followed *at once* by sterile water.

After operation, all instruments should be scrubbed with a nail brush in warm water and soap, paying particular attention to the teeth and joints of artery and dissecting forceps. They should then be sterilized for five minutes, after which they must be placed in methylated spirit, and then thoroughly dried.

Some Surgeons prefer the needles kept in carbolic solution during use. Others like them placed in rectified spirit, *i.e.* 90 parts alcohol and 10 parts water (by volume).

To prepare silk sutures for the Surgeon's use, they must be boiled for 15 minutes in simple water, and during this first boiling the threads of silk should be quite loose. If the silk is boiled in the tightly wrapped hanks as supplied, the finished sutures will be hard and likely to kink in use. After boiling for 15 minutes in simple water, the silk must be wound on to reels, and again boiled in water for 15 minutes. They must then be placed in absolute alcohol for one hour, and kept in absolute alcohol until required.

The 'London' method of preparing catgut and chromo-cized catgut sutures, is to keep the catgut in ether for 24 hours. It is then soaked for three days in 1 per cent. solution of biniodide of mercury in methylated spirit, changing the solution at the end of each 24 hours.

These catgut sutures are kept for use in a $2\frac{1}{2}$ per cent. solution of carbolic acid in methylated spirit.

The catgut may be softened before use by soaking it for a few minutes in a warm solution of carbolic 1-20.

Only practical experience in working for different Surgeons can teach a Nurse what instruments are likely

to be required or preferred for the various operations for which it will be her duty to prepare from time to time, but this technical knowledge is soon acquired as opportunities offer. New instruments for almost every purpose are constantly being invented, but the same process of cleaning and sterilization is adapted to them all.

CHAPTER XII

THERE are certain routine duties with which all Trained Nurses are expected to be familiar, and which they may be called upon to perform for any patient entrusted to their care. Amongst these may be included the taking of the patient's temperature, the administration of enemata, passing the catheter, washing out the bladder, syringing the vagina, and the giving of hypodermic injections.

Since clinical thermometers have come into such general use, the Fahrenheit scale of measurement is the one almost entirely employed in England.

**Normal
tempera-
ture in
health.**

The normal temperature of the surface of the body in health is marked on Fahrenheit thermometers at 98.4° . There is, however, a difference of normal temperature in equally healthy persons, so the extremes of temperature in health may be said to be from 97° to 99.6° . In health, the temperature varies somewhat according to the time. It is normally lowest at two or three a.m., and highest about four p.m. It is important to observe strict punctuality in taking the temperature at fixed hours. Any unavoidable variation from the time at which the temperature is usually taken must be carefully recorded on the temperature chart.

**Tempera-
ture charts.**

There are various forms of temperature charts in use at different hospitals, differing but slightly from each other. They should be neatly and accurately kept in a manner which makes it easy for the Doctor to see at a glance what the variation of temperature in a given time has been. In many cases a sudden rise of temperature is the first danger signal that

something is going wrong. It may be due to a comparatively trivial cause, but in any case a rise of temperature is a symptom that can never be wisely ignored.

Now that the temperature of the body can be ascertained with absolute accuracy, the temperature has become an active factor in guiding treatment. The importance of care in the use of the clinical thermometer, and accuracy in reporting what it records, is too obvious to need insisting upon.

In many cases it is sufficient to take a patient's temperature night and morning. In acute illness the temperature is taken every four hours, or sometimes every two hours. During the very acute stages of some illnesses the temperature has to be taken every hour, that the treatment may be directed accordingly.

Some Doctors prefer the temperature to be taken in the axilla, others in the mouth, and for children in the groin or rectum. In some obstetric cases orders are given for the temperature to be taken in the vagina. The surface temperature averages one degree lower than the others. The temperature must not be taken sometimes in one place and then in another, because that would be misleading as to the actual variation that had taken place. If for any good reason it is necessary to do this, the fact must always be distinctly noted.

**How to
take tem-
peratures.**

To get a true temperature in the axilla, a Nurse must see that it is quite dry, carefully removing any clothes that might otherwise come in contact with the bulb of the thermometer, and she must place it so that the bulb is surrounded by and actually touching the body. The true temperature will not be ascertained by simply placing the thermometer under the patient's arm, and leaving the arm to hang down by the side. The arm must be brought as far as possible across the body in front, and if the patient can conveniently hold that elbow in this position, so much the better. Patients should never be allowed to put in the clinical thermometer for themselves, or, at any rate, they must not be permitted to take it out again. How can a Nurse be certain that it has been properly placed if she does not remove it herself, and thus make sure that it has been in

the right position, and has not slipped from it? A wrong or doubtful temperature is more misleading than no record at all. It is unpardonable for a Nurse to be careless in her method of taking, or slovenly in her way of 'charting,' temperatures. A temperature taken in the axilla, in the manner I have described, can be accurately ascertained in five minutes, but eight to ten minutes is the time usually preferred.

In taking the temperature in the mouth, the bulb of the thermometer must be placed under the tongue, and the patient instructed to keep his lips closed. If the patient opens his mouth and lets in the cold air, the right temperature will not be ascertained.

Three minutes is long enough to obtain a true temperature in the mouth, rectum, or vagina. There is no special instruction to give as to the manner of taking it in the two last-named localities, except that the Nurse must be careful to oil the thermometer before using it, and must hold it in the whole time. She must take special pains to cleanse and disinfect it thoroughly afterwards. The thermometer should be dipped in some disinfectant and wiped dry again after using, so that it is always ready to be given to a fresh patient.

Clinical thermometers are very delicate little instruments. Nurses should not only handle them carefully themselves, but impress upon their patients how very easily they will break. The breakages of clinical thermometers are quite a serious item in hospital expenditure, unless the Nursing Staff are careful both in using them and in keeping them in a safe place. Nurses are too often careless in putting down a thermometer in the first convenient place, forgetting that it will easily roll off a table or locker, or that it will be certain to break if it slips through their fingers, or is knocked up against anything. I have known a careless Nurse break two, or even three thermometers in one day, whereas other Nurses do not break more than that amount during several years' hospital experience. If fairly handled, clinical thermometers will last a long time.

A Nurse must be careful, before using the clinical thermometer, to see that the index is shaken down below 97° Fahr

If she forgets to do this, and does not notice the omission, the temperature recorded may indeed be misleading.

The 'one-minute' and 'half-minute' thermometers save time, and are said to be absolutely reliable, but they are more costly, and the risk of breakage is not less than it is with the ordinary clinical thermometer.

Nurses may like to know that special clinical thermometers can be obtained of which the accuracy has been tested at Kew. A certificate is sold with each of these specially tested clinical thermometers.

A Nurse must remember that it is a weariness for a patient to have the thermometer left in unnecessarily long, as it is keeping him in a constrained position, or, if he is comfortable, he may easily forget that he still has the thermometer, and any sudden movement may break it.

It is often difficult, and sometimes impossible, to take the temperature of a very delirious patient. In cases of this kind the Nurse must hold the thermometer in, and not leave the patient alone with it. It is not advisable to take the temperature in the mouth when the patient is delirious. There is a risk that he may bite off the end of the thermometer, and swallow the glass and quicksilver before this can be prevented.

Children can sometimes be persuaded to be 'very good' in holding the thermometer, but, unless this is the case a Nurse must be careful not to leave a child alone when the temperature is being taken.

It is scarcely necessary to insist upon the importance of a Nurse being strictly accurate and trustworthy in her method of taking and recording temperatures. Carelessness in this respect may be attended with very serious consequences to the patient. If a Nurse forgets to take a temperature, she must not hesitate to admit that this is the case, and she must repair the omission as soon as possible. It is of no use for a Nurse to be annoyed if a Doctor appears sceptical as to the accuracy of some unexpected temperature she may have reported. She is less likely to take this as any serious sign of a want of confidence in herself, if she is perfectly certain in her own mind that the temperature recorded has been carefully taken. These changes of the

temperature of the body occur very suddenly. If a patient shows any sign of not being so well, a Nurse must immediately take his temperature without waiting for orders to that effect, and she must repeat the process in a short space of time if she sees any reason to do so.

If a person has been in his usual health and then complains of not feeling well, if the temperature is over 100° Fahr., it probably indicates that there is some constitutional disturbance—not necessarily serious—and in such a case it is a wise precaution for the patient to go to bed until the temperature is somewhat reduced.

It must be remembered that children have very high temperatures in proportion to adults, from comparatively slight causes, so that a temperature which might be somewhat alarming in a grown-up person may indicate nothing more than some temporary feverish disturbance in the case of a child.

The significance of a rise of temperature depends in a great measure upon the illness from which the patient is suffering. Experience in the nursing of various diseases will soon make a Nurse familiar with the typical ranges of temperature which respectively characterize these, and she will learn the various methods adopted by different Physicians for the treatment of this symptom.

It is useful for a Nurse to have a general knowledge of what the normal course of temperature is in any given disease, as it gives her some idea as to whether the illness is taking its usual course, and thus saves her from being unnecessarily anxious, or shows her when special cause for anxiety has arisen. On the other hand, a Nurse may have considerable experience before she comes across two apparently similar cases which prove to be exactly alike. Marked variations from the normal course of temperature in any disease may be due to many complications, as well as to anything abnormal in the course of the disease itself. However, the duty of a Nurse is to record *facts*, and to be careful not to overlook any symptom that it may be of importance for the Doctor to know.

Enemata. There are several kinds of enemata prescribed for different purposes. They are used

to procure the evacuation of the bowels, for the relief of pain, for restraining diarrhœa and dysentery, and for introducing nourishment, stimulants, and medicine into the system, when it is impossible, or deemed undesirable, to administer these in any other way.

When an enema is given to relieve the bowels, a copious injection is required. It usually consists of a pint or more of warm water, with sufficient soap rubbed down in it to render it creamy. The soft soap used for these enemata at the London Hospital answers to the tests for that article in the British Pharmacopœia. The ordinary proportion is about one ounce of soft soap to a pint of water. Ordinary soap of good quality answers the purpose equally well and is perhaps to be preferred in Private Nursing. The soft soap commonly in use for domestic purposes is not suitable for enemata. If a stronger remedy is required, from one to four ounces of olive oil, or half an ounce of castor oil or turpentine, is generally ordered, and this, mixed with a small quantity of gruel, or of the soap and water, must be placed in a separate vessel and injected first. The remainder of the enema must immediately follow this, without the nozzle of the tube being removed from the rectum. In this way the most important part of the remedy will be effectually given. If a Nurse attempts to mix the olive oil, castor oil, or the turpentine with the full quantity of soap and water, she will find that, however well mixed it may be to begin with, the oil or the turpentine, being lighter than the water, will float on the top, and the chances are that the quantity ordered will never be given at all. It is not easy to cleanse the vessel, nor to get rid of the smell of the castor oil or the turpentine, if a Nurse tries to make one large mixture of the whole. Occasionally the whole enema of over a pint is ordered to consist of warm olive oil. The best appliance for administering this olive oil enema is a catheter tube and funnel as described on page 141.

Higginson's For giving ordinary enemata I have no
syringe. hesitation in saying that a Higginson's syringe
is the best apparatus that can be used. In
all circumstances, and whatever appliance is employed by
the Nurse for the purpose, she must take care that the part

to be introduced into the rectum is thoroughly well oiled. It is inexcusable for a Nurse to forget or lazily to neglect to do this, for the oiling of any instrument used for purposes of this kind is a rule without an exception.

A nurse must take care that the air has been expelled from the syringe, and see that it is filled with the fluid that she is about to inject (proving this by letting some of the fluid pass back into the vessel), before introducing the nozzle into the rectum. On no account must a Nurse use any force in passing the enema tube into the rectum, even if any obstruction exists. It must not be introduced more than two or three inches. The fluid must be injected steadily and rather slowly, according to circumstances. The patient should, whenever possible, lie on the left side, near the edge of the bed, with the knees drawn up.

In giving an enema, a Nurse should have at hand some utensil and cover in readiness for the result, also a towel. In removing the syringe a Nurse must take care to keep the nozzle upwards, so as not to soil the sheet with some of the contents. She should promptly roll the towel up and press it against the patient for a few minutes, to assist in retaining the enema. This little attention is particularly necessary with children. If the fluid is permitted to return at once, it is likely to do so without producing a satisfactory result.

The temperature at which an enema is usually given is about 98° or 100° Fahr. The utmost care must be taken not to give it hot enough to risk scalding the patient.

Starch enemata. Enemata to check diarrhœa are made of starch, usually with the addition of ten, twenty, or thirty drops of laudanum, according to orders. It may happen that a starch enema is ordered to be given at a temperature of 100° Fahr., but that is very rare. In the majority of cases, starch enemata are administered very cool indeed, as nearly all remedies for diarrhœa are given cold. The quantity injected should not exceed from two to four ounces, unless special orders are given. It is probable that rather more than the quantity required will be made; therefore, a Nurse must take care to measure out the exact amount before adding the

laudanum, otherwise a portion of it will be wasted, and the patient will not have the benefit of the full dose ordered.

For children, starch enemata are frequently ordered without any laudanum, or it is prescribed in very small quantities. Nurses should always bear in mind the necessity for extreme caution and the strictest adherence to orders in the matter of administering laudanum to children, remembering their susceptibility to this drug. (See p. 115 as to the irritating rash sometimes caused by laudanum).

A starch enema must be administered very slowly and gently, with a view to causing as little disturbance as possible. External pressure with a towel will often assist the patient to retain it, and this is especially the case with children.

Sometimes instructions are given to prepare starch enemata with cold water, but, when no special orders are given to that effect, a Nurse will find that starch enemata made with boiling water are more effectual, and this is the method given in the 1885 edition of the British Pharmacopœia. The preparation must then be allowed to cool down to the required temperature, and in some cases that will be quite cold.

The best appliance for giving a starch enema is to take a good-sized gum-elastic catheter (No. 12), to which a piece of tubing with a glass nozzle at the other end has been attached. A glass syringe, to which the same catheter has been attached, also answers the purpose very well. Either of these appliances is infinitely superior to the old-fashioned ball syringe for several reasons. The funnel and catheter enable the fluid to flow in slowly and steadily, and are, on the whole, the best appliance that can be used for this purpose. There is no risk of the fluid being drawn back into the tube again, as sometimes happens with a ball syringe. The waste consequent upon putting a small quantity of a somewhat sticky compound into an unnecessarily large space is avoided by using a catheter and funnel, or a glass syringe of the required size, and these have the merit of being very neat and clean arrangements.

If a glass syringe is used, care must be taken to hold it firmly in the left hand, so that when slowly pressing down the piston with the right hand, all pressure on or against the patient may be avoided.

If no funnel or glass syringe is at hand, the ball syringe can also be employed in conjunction with a good-sized gum-elastic catheter and a small piece of tubing, but it is an inferior substitute. The risk of the fluid being drawn back into the ball syringe must be obviated by pressing the tube firmly with the fingers, and by pausing for a minute after the fluid has been injected. The tubing attached to each of these appliances can be gently detached before the catheter is removed.

‘Glycerine enemata.’ Glycerine, warmed, and given with a special glass syringe with a vulcanite nozzle supplied for this purpose is usually only given to children. The quantity ordered is from \bar{z} ii to \bar{z} i.

Nutrient enemata. Nutrient enemata are best given with a catheter and funnel in a slow, gentle way. The object in both cases is to get the injection retained, and the quantity has to be limited for this object. Formerly three or four ounces was the regulation quantity for a nutrient enema, but of late orders are frequently given for nutrient enemata to consist of half a pint each. This quantity, if not given more than four times in the twenty-four hours, is usually retained.

When patients are fed entirely per rectum, it is customary to wash out the rectum at least once or twice daily with warm water. This is done by introducing a soft oiled catheter into the rectum, to which a piece of tubing with a glass funnel at the other end has been attached. The warm water is poured gently in, and allowed to run out again into the vessel placed to receive it by lowering the glass funnel in the way adopted for washing out the bladder (see p. 148).

Before administering nutrient enemata, the Nurse must ascertain that the bowel is ready to receive them, and not loaded with fæces.

A nutrient enema usually consists of one or two eggs, one ounce of brandy, a little cream (if available), and milk or beef-tea to make up the required quantity. The object is to

concentrate as much nourishment as possible into the smallest compass. The whole must be thickened with one or two tea-spoonfuls of raw flour, arrowroot, or starch. The injection is more likely to be retained if slightly thickened in this way. Sometimes laudanum is ordered. Nurses will find that laudanum is frequently ordered as Tinct. Opii, this being another name for the same drug.

Nutrient enemata are usually ordered to be repeated at intervals. There is no reason against making more than enough for one injection at the same time, provided the mixture is not allowed to get sour before using.

Peptonizing milk and beef-tea. The milk or beef-tea used for nutrient enemata must be peptonized. Milk is peptonized with peptonizing powders and tablets of various kinds. Directions for use are given with each preparation sold for this purpose.

'To 16 ozs. of fresh milk add 4 ozs. of water and the contents of one tube of peptonizing powder. Warm the liquid to 130° Fahr. Stir in the powder and pour the whole into a jug and let it stand for about half an hour, according to the degree of peptonizing required. Afterwards, if not required for immediate use, heat the whole to boiling point, when the peptonizing process will be stopped, and the milk may be set aside for use as required. When milk is fully peptonized a slightly bitter taste will be perceived, which is intensified the longer it is allowed to stand before boiling. It is not, however, usually desirable to allow the peptonizing action to proceed longer than is necessary to produce the slight bitterness referred to.'

Beef-tea is peptonized in the same way, but pancreatic solution (three drachms) and twenty grains of bicarbonate of soda to a pint of beef-tea, are substituted for the peptonizing powders.

Coffee enemata. A coffee enema is frequently ordered in cases of collapse. It is made of strong coffee (strained) and brandy. The amount given is from four to ten ounces; sometimes more if the patient will retain it. The proportion is about one ounce of brandy to four ounces of strong coffee. More brandy is sometimes

ordered, but this is the usual proportion when no special orders are given.

When a coffee enema is ordered to be given immediately after an operation, a large enema can often be retained, as the rectum is generally empty and clean, and the enema gets quickly absorbed.

Drugs are sometimes given per rectum. It may occasionally happen that bromide of potassium or paraldehyde is administered in this way, or, of course, any other drug the Doctor may prescribe.

Nasal feeding. Doctors frequently resort to nasal feeding when it becomes absolutely essential for nourishment to be administered, and when a patient persistently refuses to take food, or when he is unable for any reason to do so in the ordinary manner.

Most Nurses who are trained in large hospitals where numbers of acute cases are received, get opportunities of seeing nasal feeding, and subsequently of feeding patients in this way themselves.

A catheter, with a piece of glass tubing inserted at the end, to which is attached a piece of indiarubber tubing about six inches long, with a glass funnel fastened to the other end of the indiarubber tubing, is the best apparatus for this purpose. The piece of glass tubing is useful to see if the food is running through. Care must be taken to oil the catheter before passing it into the nostril. Olive oil is better than glycerine for this purpose, for when the mucous membrane is tender, glycerine makes it smart very much.

If the tube goes into the windpipe by mistake, the patient will cough a great deal and get a blue colour. A Nurse can tell when the tube is in the stomach from the gurgling sound which proceeds from the tube.

Nasal feeding is difficult when the patient is very restless, or if he resists. In that case it will take at least two people to manage properly, one to hold the apparatus in place, and the other to pour the liquid slowly and steadily into the glass funnel.

Eggs and milk are the most convenient foods to

administer in this way. Brandy or medicine may be added according to orders. For children, the quantity given varies from four to seven ounces ; for adults, it is usual to administer a pint or more. Food given in this way should be warm—about 98° Fahr.—and must *always* be carefully strained, as the tube is apt to get blocked if this is not done. It is very annoying for all concerned, and most vexing for the patient, if the tube happens to get blocked just when the right position has been secured.

A Nurse must never attempt nasal feeding herself until she thoroughly understands how it is done. She must never undertake it alone, either at a private case or in a hospital, until she has not only seen it done, but managed it at least once herself under skilled supervision. It is no discredit to a Nurse to confess to ignorance of what, outside the hospital, cannot be regarded as an everyday occurrence. She has no right to add to the distress of a patient by attempting what she may not be able to perform skilfully, except in the presence of some one able to rectify the clumsiness of inexperience, and to afford speedy relief.

Nasal feeding is a most useful resource. It is of great benefit to patients who are in a condition to need it, but a Nurse must never adopt this method without definite orders from the Doctors. A very little practice will suffice to make a Nurse able to administer food and medicine by this means, with the necessary skill and competence, but it is far more difficult to do this in some cases than in others. In very critical cases, where some local trouble renders the proceeding exceptionally difficult, a Nurse is quite justified in asking the Doctor to undertake this duty himself, and in such circumstances she must not hesitate to ask this.

**Passing
the cath-
eter.**

A Nurse cannot be too careful that nothing of a septic nature is conveyed into the bladder when she introduces the catheter. The catheter must be kept scrupulously clean. It must be washed in clean water and some disinfectant immediately after use, and then sterilized. Celluloid catheters are preferable to any others for patients with pelvic tumours or for labour cases.

For passing the catheter a Nurse must provide herself

with a thoroughly clean vessel to receive the urine. She will also need lotion, swabs, a receiver and a towel, in addition to the preparation used for oiling the sterilized catheter. This may be either Lunds catheter oil, sterilized olive oil, vaseline, etc.

The Nurse must place her patient in position, *i.e.* on her left side, with her knees drawn up and the buttocks well on the side of the bed. There are cases when it is best for the patient to lie on her back, with her knees drawn slightly up and apart. This is sometimes found more convenient when the patient is a heavy woman, or if she cannot lie comfortably on her side, but the former position is preferable on the whole. Having arranged her patient in the right position, the Nurse must cover her with a sheet or blanket, only turning back the part necessary to expose the vulva. The vessel must be placed in position to receive the urine. After everything is quite ready, and the patient arranged, the Nurse must carefully scrub and disinfect her hands. She must then take a swab from the lotion and clean the vulva generally. The Nurse must then wring out two swabs and place them open on either labia. She must keep them apart with the thumb and first finger of the left hand. This exposes the urethra and vaginal orifice. A Nurse must never attempt to pass the catheter without seeing the urethra and first disinfecting it. She must then take a wet swab and swab downwards. She must take a second wet swab and repeat the action, only on the second occasion she must leave the swab over the vaginal orifice.

After oiling the sterilized catheter, she must gently pass it into the urethra.

The catheter must not be introduced more than about two or three inches, and the Nurse must not employ pressure or force under any circumstances. The Nurse must never forget that if the catheter does not go direct into the urethra, it must be re-sterilized and the adjacent parts must be cleansed again. This is most important to avoid the risk of any infection being conveyed into the bladder.

After some operations it is by no means as easy to introduce the catheter as it is in ordinary conditions.

Unless a Nurse observes carefully she may imagine that the catheter has reached the bladder when it has only passed into the vagina.

The patient must be left perfectly dry and comfortable.

Nurses need scarcely be reminded that such offices as these must always be performed with the utmost care and delicacy. A Nurse must endeavour in this, as in all her other work, to make her patient the first consideration, and she must render the exposure necessary for her own instruction in the first instance as little distasteful as possible to the patient.

No Nurse must ever attempt to pass the catheter merely for the sake of experience, nor when she is working in the Wards of a Hospital, must she ever try to carry out this nursing detail alone until the Sister gives her permission to do so. Practice and experience alone will give a Nurse the necessary knowledge and confidence in offices of this kind, where skill on the part of the Nurse means saving the patient *unnecessary* suffering, a true Nurse will take great pains to become really efficient.

The repeated use of the catheter is apt to irritate the parts, and to set up some local inflammation, unless extreme care and gentleness are exercised by the Nurse. In some cases the utmost care and gentleness cannot prevent this. If any cystitis (inflammation of the bladder) arises, unless the Surgeon has absolute confidence in the Nurse, he may be inclined to suspect the condition of the catheter, or the way in which it has been passed. Cystitis may occur when no blame can fairly be attributed to these causes, but cystitis is almost certain to arise if there is any defect in the absolute surgical cleanliness of the catheter, and in everything connected with its use. A Nurse, realizing the importance of this, must not resent minute inquiries as to the method she has adopted for cleansing the catheter, and as to what precautions have been taken. A Nurse cannot always hope to escape suspicion, although she must take every pains not to deserve it. She can, however, by exercising scrupulous care, have the great satisfaction of knowing that her work will bear the minutest examination,

and that she, therefore, has no need to reproach herself for any share in bringing about unsatisfactory results.

How to wash out the bladder.

To wash out the bladder and to inject some fluid into it, requires extreme gentleness. Serious injury may result from using the least force in any way.

The neatest method of washing out the bladder is to have a full-sized sterilized catheter, or the end of a full-sized sterilized catheter with a piece of indiarubber tubing joined on, and a glass funnel fitted to the other end of the tube. Any urine that may be in the bladder must first be drawn off, taking all the precautions for passing the catheter already explained. The end of the catheter must be oiled before using, as much for this as for the ordinary purpose. It takes two to carry out this order gently and efficiently. One must attend to the catheter, which must not be moved at all until the process is quite over; the other must hold the funnel at the required height to pour in the fluid by degrees, and to let it escape slowly from the bladder from time to time by lowering the funnel into the vessel placed to receive the contents.

Sufficient fluid must be poured into the bladder to make it somewhat distended so that any pus or mucus which may be adhering to the folds of the bladder may be removed. The wash must be continued until the fluid returns quite clear.

The other method of washing out the bladder is to put the end of the catheter on to a syringe. The objection to this plan is that the fluid is necessarily jerked in instead of flowing in steadily, so that in the absence of any orders to the contrary, a Nurse should adopt the method first described.

Vaginal douches. These are employed for ordinary cleansing purposes, for keeping pessaries clean, for counter-irritation in inflammatory conditions, to check uterine hæmorrhage, for local treatment in vaginitis, and other purposes.

The douches most commonly used are—

Saline, 1 drachm to the pint.

Iodine, 1 drachm to the pint.

Sanitas, 2 drachms or $\frac{1}{2}$ ounce to the pint.

Hyd. Perch, 1 in 4000 followed by sterile water.

Lysol, 20 minims to the pint.

The best apparatus for giving these douches is the enamel or glass irrigator with the long tubing and clip and the glass nozzle with the holes round the sides of the bulb-like end.

The whole apparatus can be boiled if necessary, and the glass nozzle must always be sterilized before use.

The patient must lie on her back, with a warm bed-bath placed under her to receive the returning fluid. She must be covered with a blanket which must be turned back a little at the right side, just enough to expose the vulva without further uncovering the patient.

The Nurse must have the injection ready in the irrigator and fixed either on the wall near the bed, or in any case raised about three feet above the patient.

The Nurse must have at hand the bowl containing the douche nozzle in lotion Hyd. Perch. 1 in 5000, and another bowl of lotion for her hands, as well as some swabs.

If a patient has a vaginal discharge, she must be well swabbed before the douche is given, and this is a necessary precaution in any case.

The nozzle must then be fitted into the tubing, and the fluid allowed to run into the bath until it flows quite warm, otherwise as the lotion quickly cools in the tubing, the first part of the douche would be too cold to be comfortable to the patient.

When all is ready, take a swab and gently draw back the perineum and insert the nozzle about three inches into the vagina. Gently move the nozzle round so that the fluid thoroughly washes all round the vagina and that the orifice may be clean when the nozzle is withdrawn. This is not the case if the nozzle is allowed to remain unmoved, or is just kept in by the patient herself.

In withdrawing the nozzle, its point should be kept upwards to prevent what fluid remains in the apparatus from running out.

After removing the nozzle, gently draw back the perineum, and get the patient to strain down, in order to expel the remainder of the fluid from the vagina, otherwise some is almost certain to be retained.

The nozzle must be detached from the tubing and placed

in the lotion again before it is cleaned and sterilized. It must not be put into the irrigator after use as is sometimes carelessly done.

Almost any quantity can be injected by this method, the only limit being the size of the receptacle.

The temperature of the douche varies with the object for which it is prescribed.

For cleansing purposes, warm sterilized water or some disinfecting solution may be used at a temperature of 100° to 105° Fahr. Douches of sterilized hot water at a temperature from 110° to 115° Fahr., are much prescribed for the relief of certain local inflammations.

When an irrigator is not available, Higginson's syringe, to which the right kind of vaginal nozzle has been attached, is quite suitable to the purpose.

I should add that of late years the tube attached to Higginson's syringe has been made of glass instead of hard rubber. This is a very satisfactory arrangement, as it can be rendered absolutely clean and free from any possible infection by sterilizing. In hospitals a proper douche tin is used for the vaginal douche, but, when this is not at hand, a bed-pan can be employed for the purpose.

Glycerine tampons. Glycerine tampons are frequently ordered for pelvic pain. Cotton wool is made into a small roll about the size of a woman's thumb.

A piece of tape is tied securely round the middle, leaving one end about nine inches long. The tampons are sterilized and then soaked in glycerine or whatever may be ordered. The patient has a hot douche 110° Fahr. to 115° Fahr., after this the tampons are inserted for about two inches into the vagina. If there is difficulty in inserting the tampon, it may be necessary to employ the small end of the speculum previously sterilized and oiled. The tape is left hanging out to enable the tampon to be removed without difficulty the following morning. The patient has another douche after the tampon is removed. This treatment is often continued for a month or more as prescribed.

Hypodermic injections. A Trained Nurse is expected to know how to give a hypodermic injection, though young Nurses should only do so in the first instance under careful supervision. The custom in

the London Hospital is for the Sisters to give hypodermic injections whenever they are ordered. No Nurse is allowed to do so except in accordance with the Sister's instructions. The Sister would not be justified in delegating this duty to any one of her subordinates until she had personally ascertained that the Nurse in question had been taught how to give hypodermic injections, and was competent to do so. It is best that this fact should be distinctly understood. Any error might so easily be attended with fatal results. The solutions employed for the purpose are always of highly concentrated strength. They soon get impure by keeping. This difficulty is overcome by the present custom of preparing drugs for hypodermic injections in the form of small tablets, which can be procured of any strength ordered. This is a great advantage for the Nurses who have to administer them, and relieves them of all anxiety concerning the correctness of the dose, beyond carefully reading the label of the tube in which these minute tablets are supplied. The tablet has to be dissolved in a few drops of sterilized water, in a small minim glass if one is at hand ; if not, a teaspoon will do. The solution must then be drawn into the hypodermic syringe, ready for use.

Some hypodermic syringes are made in a way that enables the needle of the syringe to be unscrewed and taken off. So many minims of water are then put into the syringe, the tablet added and allowed to dissolve in the syringe, when the needle is screwed on again, and the injection given. Of course, this cannot be done unless the syringe is wide enough at the neck to admit the tablet. The only advantage of this plan is that nothing is wasted, but waste can equally be avoided if the Nurse does not add more water to the tablet than is just sufficient to dissolve it, and if she is careful to draw all the fluid in the minim glass or teaspoon into the hypodermic syringe. The smaller the quantity of fluid which has to be injected for the patient to receive the full dose of the drug ordered, the better it will be.

The hypodermic syringe in general use at the London Hospital is one with a Jena glass barrel and a metal piston

—the whole of it may be sterilized by boiling in water. The metal piston should be removed from the glass barrel before sterilizing, and should be cooled before being replaced.

The drugs mostly used for hypodermic injections are strychnine, morphine, digitalin, caffeine, pilocarpine, ergot, and the various anti-toxins.

Drugs administered hypodermically have a very speedy effect. There is an increasing tendency to prescribe hypodermic injections of various drugs which formerly were never administered in this manner.

A Nurse must be perfectly certain that she understands the strength of the solution she is about to use, and that she knows how to read the hypodermic syringe as well as she does the figures marked on an ordinary medicine glass.

‘Hypodermic’ is a Greek term, meaning *under the skin*. The Latin term, ‘subcutaneous,’ means the same thing.

In filling the syringe, the Nurse must be exceedingly careful that no air gets mixed with the fluid. She must also be sure that the tablet is properly dissolved.

Care must be taken to avoid putting the needle into a vein.

To give a hypodermic injection, a Nurse must pinch up a fold of the skin, after previously preparing it by rubbing it over with a little ether, and then firmly thrust in the point of the needle horizontally, after having dipped it in sterilized oil before slowly injecting the fluid. The orifice made by the needle of the syringe is so minute that the liquid will not generally escape, but it is as well for the Nurse to keep her finger on the spot for a minute when she withdraws the syringe, otherwise, if a drop of blood exudes after the prick, the fluid injected may escape, and the patient thus be deprived of the greater part of the drug which has been ordered.

The fine point of a hypodermic syringe easily gets clogged up, especially when gelatinous discs have been employed for the injection, and it is then of no further use. To avoid this, a Nurse must be particular to clean it *at once*, before the fluid in which it has been dipped has had time to dry on. She must take care to pass some clean cold water once or twice through the syringe, and repeat this process with a

little pure alcohol when available. It is necessary to keep a piece of silver wire through the needle when it is not in use.

The best method of cleaning these hypodermic syringes is to take them to pieces, *i.e.* remove the piston, rinse both parts thoroughly in warm water, leaving them in methylated spirit for a few minutes, and allow them to dry before putting them together again. The needle may be treated as part of the syringe.

Brandy and other stimulants are sometimes injected hypodermically. This is usually done by the Doctor, but occasionally the carrying out of this order is entrusted to a Nurse. A larger syringe is required for the purpose, the point of the needle must be dipped in sterilized oil before it is used.

CHAPTER XIII

Undressing and management of accident cases.

THERE are a few points which it is useful for a Nurse to know in connection with the undressing of accident cases, so that when the need arises she may set to work in such a manner as to avoid giving unnecessary pain to the patient, or without running the risk of increasing the extent of the injury. For instance, the unskilful handling of a simple fracture will easily turn it into a compound fracture. I should explain that a fracture is termed 'simple' when the bone is broken and the skin remains uninjured, and 'compound' when the bone has pierced the skin, or when the skin has been wounded. When the bone has been splintered and the skin injured also, it is called a 'compound comminuted' fracture.

Cases of fractured femur are perhaps the most difficult to undress. The bedclothes should be turned back to the extreme side of the bed, and the patient laid in the middle. The coat, waistcoat, and collar should be removed first, as gently and expeditiously as possible. The outside seam of the trousers of the injured leg should then be ripped up, waistband included. Care must be taken to cut along the seam of the trousers, so that they can easily be mended again. The buttons of the braces must be unfastened at the back as well as the front, to avoid all dragging. Then a sheet must be lightly thrown over the patient to prevent any exposure, and the cut trouser-leg must be drawn, with the utmost care, from under the whole length of the leg to the inside, the Nurse slipping her hand gently under the thigh, if necessary, to guard against any jerk. The leg of the trousers of the uninjured side can easily be drawn off

while the sheet is still over the patient. The stocking must be cut down the seam to the foot, and then taken off without a jerk, by keeping one hand firmly on the ankle. If the accident is a broken arm, a dislocated shoulder, or any injury to the upper extremity, the sleeves should be removed from the uninjured side first, *if* it can be done without causing much pain ; but if not, the outside seam of coat, waistcoat, and shirt must be ripped up.

A Nurse should never risk increasing the injury by refraining from cutting the clothes ; but the destruction of clothes is a matter of great importance to poor people, and they should not be sacrificed recklessly. Tapes, buttons, bootlaces, and hooks and eyes may be cut freely—these can be quickly replaced—but material should never be destroyed when it can judiciously be avoided. Women know how to undress a woman, but a Nurse must be careful to ascertain that all buttons, strings, etc., are freely unfastened before she attempts pulling off the clothes. A Nurse must always undress the patient as though the injury were of a serious nature, and she must avoid jerks and pulling. Before taking off the boots, a Nurse must take a firm hold of the ankle, so that there may be no strain above that. She must be sure to see that the garters are removed, or the stocking suspenders unfastened, before attempting to draw off the stockings. It seems ridiculous to point out such obvious details, but Nurses sometimes forget them. In putting on and taking off clothing from patients where movement is a difficulty, the distinct rule for skilled Nursing is, ‘Never make two separate moves where one would do.’ If this rule is reduced to practice in each case, with all the common-sense modifications that the special circumstances may indicate, the patient will not suffer unnecessarily at the hands of the Nurse.

A Nurse must remember, if she is putting on a clean shirt or nightdress, that the bad side must be attended to first. If she is taking it off, she must take out the uninjured side first, so that there may be no difficulty or strain in getting it off the bad side.

A Nurse must never touch any wounded limb as though she were afraid of it. She must handle it very gently, of

course, but quite firmly. A hesitating hold will give unnecessary pain, will fidget the patient, and inspire no confidence. If a Nurse has to lift or carry patients with injuries or diseased limbs, as frequently happens in the case of children, the bad side must always be carried *the furthest away from the Nurse*, and the uninjured side next to her. No Trained Nurse should ever forget this. She is less likely to hurt in this manner, and it is considered the right way.

For instance, when a patient suffering from hip disease is brought into the hospital, and the Nurse has to put him to bed, she will probably find that he is very frightened of the pain that the least movement causes him. She should reassure him as kindly as possible, and when it is necessary to raise him, he must be told to put his arms round the Nurse's neck, or to lift himself by the pulley (if one is at hand), while the Nurse devotes her attention to keeping the limb perfectly straight. It is best to take a firm hold of the leg above the ankle, making a little traction at the same time, and as in carrying or lifting the patient increased weight would be thrown on the inflamed joint of the hip or knee, whichever it may be, the head must be kept low, and a tendency to raise it must be resisted. When a Nurse wishes to make a patient comfortable in bed, and when she is asked to raise him, and takes the patient in her arms, she must remember as a matter of habit to go on the uninjured side whenever circumstances permit.

When a Hospital Nurse has succeeded in undressing an accident case and the patient is safely in bed, the next thing is to get him thoroughly clean, particularly the injured part, as that is what the Doctor will want to deal with first. Patients are frequently brought into an accident ward straight from work of a dirty nature, so that the Nurse must be prepared for this. Sometimes the shock of the accident makes it imperative not to disturb the patient by washing him at all. The vital powers of the patient may be lowered from the shock of the accident, and however dirty his condition, this fact is of paramount importance. When the least doubt arises on the subject, orders must be obtained, but, in an accident ward, washing the patient soon after

admission is the general rule. A Nurse must carefully guard against cold.

All accident beds should be provided with a mackintosh and draw-sheet to be put on the pillow, near the foot, or in the middle of the bed, wherever they are needed. If the nature of the accident does not render these necessary, they can easily be removed, but they should always be there to begin with. They are useful for the washing process, if nothing else, in addition to the usual washing blanket. It is dirty, wasteful, and most careless on the part of a Nurse to let the bedding and mattresses get soaked through with blood before she thinks it necessary to provide a mackintosh and draw-sheet.

In addition to the splints, pads, bandages, cotton-wool, strapping, and strapping-tin, which the Nurse would get ready for the Surgeon in simple fractures, she must have at hand a basin of iced or sterilized water, swabs of wool or gamgee tissue, sterilized gauze and lint, as any of these things may be required in a case of compound fracture.

After putting up the fracture in splints, the Surgeon will probably wish to sling up the limb to a cradle, as this is usually the most convenient position for it, and the easiest for the patient. The old-fashioned cradle, which serves the twofold purpose in these cases of taking off the weight of the bedclothes and forming a convenient means of getting the leg raised, is now frequently superseded by what is

Bloxam's known as a 'Bloxam's cradle.' This ap-
cradle. pliance is much more comfortable for the
patient, as it admits of freer movement on his
part, without interfering with the satisfactory position of
the injured limb.

In cases of fractured femur, the patient should lie upon his back, and only have pillows so as to keep the body as level as possible.

In cases of fractured ribs, the patient will be more comfortable propped up with pillows, and probably will prefer to lie on the bad side, as in cases of pleurisy. It enables him to breathe with less pain. In all cases of fractured ribs there is a risk that the accident may be complicated by injury to, or inflammation of, the lungs. A Nurse must,

therefore, watch for any cough or spitting of blood. In those cases of severe accident, where the unfortunate patient is suffering from a fractured femur and fractured ribs at the same time, it need scarcely be said that the fractured ribs claim first attention, and the patient must be propped up with pillows. Everything must be done to enable him to breathe as easily as may be, regardless of the fact that this is not a favourable position for the fractured femur.

Hæmorrhage. Sudden hæmorrhage is an emergency with which a Nurse may be called upon to deal while the Doctor is being hurriedly summoned to the case.

Hæmorrhage may be *primary*, *recurrent*, or *secondary*.

Hæmorrhage is called 'primary' when it occurs at the time of the accident or operation; 'recurrent' when it occurs from twelve to twenty-four hours later. This is usually due to the slipping of a suture, or to an artery being missed during operation. It occasionally happens that an artery escapes notice at an operation, as, owing to the weaker action of the heart whilst the patient is under an anæsthetic it may bleed less freely at the time than is the case afterwards.

Hæmorrhage is called 'secondary' when it occurs from two or three, or even up to six, weeks after the accident or operation. It is then due to want of healing power in the patient, and occurs from the sloughing of the wound into an artery.

There is generally a warning in the shape of a stain of blood on the dressings a day or so before the hæmorrhage comes on. Therefore, a Nurse must always be most careful to notice and to report a stain of this kind.

A Nurse must learn how to apply the ordinary tourniquet in use in the hospital; how to improvise a tourniquet, should she have a case of hæmorrhage to deal with when out of reach of hospital appliances; and how to arrest hæmorrhage occurring in different parts of the body, by compression of the main artery supplying the part at which the hæmorrhage is taking place. Nothing but practical instruction and the actual handling of various parts by the Nurse when she is

studying the question, and no hæmorrhage is going on, will give her this necessary technical knowledge.

A Nurse will have no difficulty in recognizing the difference between arterial, venous, and capillary bleeding when she has once had the difference explained to her, and seen an illustration of each.

Blood coming from an artery is a bright red colour. It spurts out in jerks, corresponding with the beats of the heart. It is the most serious form of hæmorrhage. If one of the main arteries of the body is severed, and the hæmorrhage not speedily arrested, the patient must bleed to death in an incredibly short time.

Venous bleeding comes in a steady flow from a vein, never in jerks. The blood is a much darker red.

Capillary bleeding is a less serious matter. The blood does not flow in a stream, but keeps oozing. Generally speaking, capillary bleeding is comparatively easy to arrest.

There are three points for a Nurse to remember when she wishes to stop hæmorrhage. First, position; second, pressure; thirdly, the application of heat or cold, or various styptics, such as perchloride of iron.

When hæmorrhage occurs, the bleeding part must always be raised.

When a varicose vein is bleeding, the patient must be laid on his back, and the leg raised perpendicularly.

In case of arterial bleeding, pressure must be made nearer the heart than the bleeding point.

Pressure must be made over the part affected in case of venous and capillary bleeding.

For uterine hæmorrhage, very hot (115° Fahr.) or ice-cold douches are employed, and ergot is usually administered in various forms.

In cases of hæmatemesis (bleeding from the stomach) the patient must lie flat on his back. Occasionally an ice-bag is ordered to be applied to the stomach, but this is by no means a routine practice.

When hæmoptysis (bleeding from the lungs) occurs, the patient is often propped up to enable him to spit up the blood and to breathe more freely. In these cases ice-bags

are frequently ordered to be applied to the chest, as nearly as possible over the bleeding part.

Epistaxis (bleeding from the nose) is not, generally speaking, a very serious matter. Bathing the nose with iced water is sometimes sufficient to arrest it, but, if not, it is a good plan to apply an ice-bag to the bridge of the nose.

Nasal douches are also employed. The patient's head must be placed on one side, while the Nurse sends the stream up one nostril, and a receiver must be in a position to catch the fluid as it flows down the other. The patient must be told to breathe through his mouth during this process, to prevent the douche passing down the throat.

Sometimes the patient is propped up in a chair, and each leg placed in a separate bucket of hot water. This is done with a view of drawing the blood away from the head to the extremities. A bucket is preferred to an ordinary foot-bath, because it is deeper, and the Doctor wishes the hot water to reach as far up the legs as possible.

If the bleeding persists, the Doctor will probably think it desirable to plug the nostrils with some kind of medicated gauze or lint. This is an extremely painful process, and while the plug remains it is a source of great discomfort to the patient. The Doctor will probably wish to remove or to change the plug within twenty-four hours, as it becomes septic; but this is not a question which rests with the Nurse.

Unless the patient loses a considerable quantity of blood, there is no cause for alarm. The symptom gives rise to discomfort rather than pain.

Delirium tremens. Many hospital accident cases soon become complicated with an attack of delirium tremens. Delirium tremens comes on almost as often by a hard drinking patient being deprived of drink as by his taking it. Its advent is frequently characterized by marked uneasiness, bad dreams, temporary wanderings, and fussy excitability. An experienced Nurse soon learns to discern the early symptoms of an attack of delirium tremens coming on, so that she is prepared for the violent stage when it arrives. It is important to take great care of the injured limb while the patient is in this irresponsible

condition. The patient must be induced to take as much nourishment as possible. The Doctor will direct such treatment as he may deem necessary in every case.

In cases of lacerated scalp, concussion of the brain, or fractured base, all shaking must be scrupulously avoided. No food must be given, and perfect quiet must be maintained. A Nurse must have ice-bags and hot-water bottles ready to apply immediately. In these cases she must carefully notice if there is any alteration in the breathing, or any discharge from the ears or nose. There may be squinting, or contraction or dilatation of the pupils. She must notice also if there is any paralysis, or if any twitchings or convulsions occur; if there are involuntary evacuations of the bowels or bladder; if any vomiting occurs. A Nurse may be the first to notice these symptoms, but let me remind Nurses that they must only report the occurrence of any one of them, and not exceed their duty by observations to the effect that they *have not occurred*, except in reply to a direct inquiry from the Doctor.

**Drunken-
ness.**

Some of the cases that are brought into the ward 'insensible' are in this condition from drunkenness. It is far better to err on the side of taking too much care of a drunken patient than to pay too little attention to a patient who is unconscious from accident or from disease.

There is nothing special for the Nurse to do in cases of drunkenness, except that she must raise the head a little and turn it on one side, to avoid the risk of any vomited matter being drawn back into the trachea and choking the patient while he is in an unconscious state.

In some cases of drunkenness, the stomach may probably have been washed out before the patient is carried into the ward. If a Nurse has to assist in this process, she must remember that warm water must be put into the stomach before any attempt is made to remove the previous contents.

Even skilled Doctors find it sometimes difficult to decide to which of the various known causes of complete unconsciousness the condition of a patient in this state may be due. As the diagnosis of the case is the part of the Doctor, a Nurse can be still less expected to distinguish between the

insensibility of concussion, of compression of the brain, or of drunkenness. A Nurse need not assume that a patient has been drinking because of an unmistakable smell of alcohol from his breath or clothing. If a man falls down in a fit in the street, it frequently happens that bystanders, with a wish to render assistance, procure stimulants and endeavour to make the patient swallow them. It is well for Nurses to be aware of this fact, that they may avoid too hasty a conclusion.

Fainting. A Nurse may more frequently have to deal with the unconsciousness which arises from the comparatively trivial emergency of fainting. Faintness is caused by the temporary failure of the heart's action, and the consequent cessation of circulation in the brain. The patient must be laid flat to facilitate the flow of blood to the head. A Nurse must avoid the common mistake of raising the patient. She must secure plenty of fresh air, and at the same time guard against cold. Consciousness gradually returns. The patient usually finds a drink of cold water reviving directly he 'comes to.' Sometimes it is also advisable to administer stimulants.

Ordinary fainting fits give little cause for serious anxiety, though they are a disagreeable experience for the patient.

Sometimes the effect of a sudden fainting fit passes off speedily, and the patient feels perfectly well again. In other cases, patients complain of feeling 'shaky' and out of sorts for a few days after the fainting attack. In these instances they should avoid any over-exertion until they are feeling in their normal condition again, or the attack may recur on slight provocation.

If fainting occurs in the midst of a crowd, or in circumstances where it is not possible to lay the patient flat, a Nurse should bend the patient's head down quickly, towards the knees. This movement fulfils the same object as lying the patient flat, *i.e.* it facilitates the flow of blood to the head. If a patient is observed to be losing consciousness, if the head be lowered promptly, complete unconsciousness may be prevented, or, at any rate, will not last so long.

Drowning. Nurses are scarcely likely to have much to do with patients who have narrowly escaped

drowning, but most Nurses attend ambulance lectures, and will have been duly instructed as to the form that 'first aid' should take in this emergency. If it happens that a Nurse is called upon to render assistance in a case of this kind, she must remember that it is first necessary to draw out the patient's tongue, and to secure it against falling back over the entrance to the trachea, by a piece of string, an indiarubber band, or a handkerchief tied round it. He must next be turned over with the face downwards, to give every opportunity of getting rid of the water which may be choking up the air passages.

The patient must then be promptly turned on his back, with something rolled up under his shoulders to enable the head to fall back. The tongue must be kept pulled well forward, and artificial respiration must be resorted to at once.

When artificial respiration is performed, one person stands behind the patient's head, grasps his elbows, slowly raises his arms well above his head, bringing both arms down again at the same moment, pressing the elbows closely in against the sides of the chest, and slowly raising them again to assist in renewing the mechanical action of the expansion of the lungs in breathing. This must be done with great and persistent regularity, not oftener than from twelve to seventeen times in a minute. Another person should vigorously rub the patient's legs upwards towards the heart, apply warmth if possible, and endeavour to restore the temperature of the body. Many lives have been saved by those at hand possessing the necessary knowledge and the practical common-sense not to waste a moment before setting to work. Efforts to restore an inanimate person must be persevered with until it is no longer possible to doubt that life is extinct. When the patient once breathes again, the Nurse would only need to take ordinary care to make him warm and comfortable in bed, and to persuade him to remain there until he had recovered from his recent shock.

It is useful for Nurses to know how artificial respiration is done, as it may become necessary to resort to it at any moment during an operation, if the sudden danger occurs of a patient ceasing to breathe under an anæsthetic.

Burns. Many cases of burns and scalds will have had first dressings applied before they are brought to the ward. A scald or burn must be covered up as quickly as possible. The injured surface must never be exposed to the air for a moment longer than can possibly be avoided.

The respective merits of the various dressings employed for burns are of less consequence, comparatively, in the first instance, than the fact of keeping the burn covered up. Any application nearest at hand of a greasy nature—such as salad or olive oil, zinc ointment, cold cream, etc.—is most likely to afford relief. Later on the dressing ordered will be that best adapted to the condition of the wound from time to time.

In cases of burn, where the pain is always great and the degree of 'shock' a very serious consideration, no attempt must be made to wash the patient until after some little time has elapsed.

'Burn cases' are apt to go through much suffering subsequently, owing to the contractions which tend to take place when burns heal. Every precaution must be taken to minimize this evil as far as possible, though the means necessary to secure the best result in this respect often tend to hinder healing, and to make it a slow process.

Frequently the Doctor decides to do skin grafting in cases of burns. This is done to promote healing when a large, raw surface has still to be healed. When this has been done a Nurse has to be scrupulously careful not to disturb these 'grafts' in doing the dressing, if this duty is entrusted to her.

The dressing of burns is frequently very painful, and much dreaded by the poor patients. The greatest care must be taken to render the process as little distressing as possible. No Trained Nurse will forget the necessity of changing the dressings very gradually. She must remove and replace the dressings by degrees, never uncovering a large surface at one time. If the burn is on the arms or legs, it is a good plan to have the dressings prepared in wide strips, so that the clean one can be wound on while the soiled one is being wound off. It is usual to leave the

first dressings for two or three days, without touching them. Instructions on this point will always be given by the Doctor.

The wounds from extensive burns have a particularly offensive smell, which is distressing alike to the patients and to those about them. A Nurse must take special pains to keep these cases in as clean and nice a condition as circumstances may permit.

Burns are dangerous more in proportion to the *extent* of the surface injured than to their *depth*. Brandy and opium are usually administered freely. In severe cases of burns the poor patients are miserably restless. When they are not doing well they suffer from intense thirst and constant vomiting.

Complications of burns.

Burns are sometimes complicated with pneumonia or septic poisoning, giving rise to long and serious illness, even if fatal results do not ensue.

It is not uncommon for burns in children to be soon followed by an attack of scarlet fever.

Children also develop occasionally what is known as a 'burn rash,' which much resembles the rash of scarlet fever, and sometimes makes it difficult even for experienced Doctors to decide for a day or two whether the patient is suffering from scarlet fever or not.

Erysipelas. Erysipelas is one of the complications which may occur at any time in an accident and surgical ward. A Nurse ought to be acquainted with the symptoms of erysipelas setting in, that she may not fail to notice and to report them without loss of time. The chief symptoms are, a sudden rise of temperature, vomiting, rigors, and redness round the edges of the wound.

When the Doctor pronounces a patient to be suffering from erysipelas, he will order his immediate removal from the ward. Prior to that event, if an experienced Nurse has reason to suppose erysipelas has occurred, it is simply her duty to take every precaution against carrying the contagion to her other patients, remembering at the same time that the actual diagnosis of the case rests with the Doctor, and that the less she has to say about it the better. She will

be well advised to leave the dressing of such a case to the last, and to be most scrupulously careful about cleansing and disinfecting any instruments, appliances, or utensils that may have been used by or for the suspected case.

When a case of erysipelas has been removed from the ward, a Nurse must be thoroughly trustworthy and conscientious in clearing away the mattress and bedding, and everything that has been in contact with the patient. She must take care that the bedstead is thoroughly washed with some disinfectant, if it is not the custom for it to be removed from the ward to be disinfected elsewhere. The floor and wall in the immediate neighbourhood of the bed must also be washed down, if possible, and the Nurse must take every precaution that no trace of infection remains.

CHAPTER XIV

The administration of medicine. A NURSE's work in connection with drugs lies chiefly in their punctual, accurate, and skilful administration.

Every Nurse must realize the paramount importance of absolute *accuracy* in the measurement of any medicine she gives, in whatever form it may have to be administered. In some instances a slight inaccuracy may cause fatal results. In other cases it may not be of grave consequence, but the *habit* of perfect accuracy is essential to good Nursing.

Nurses must learn the simple table of English measurements ; I mean the following :—

One minim = one measured drop = mi.

Sixty minims = one fluid drachm (one tea-spoonful) = $\bar{5}i$.

Eight fluid drachms = one fluid ounce (two table-spoonfuls) = $\bar{5}i$.

$\frac{1}{2}$ ounce = one table-spoon or four tea-spoonfuls = $\bar{5}js$.

Twenty fluid ounces = one pint = Oi.

A Nurse must be certain that she thoroughly understands how to read the measure glasses, and she must be as confident that she knows how to do this as she is that she can tell the difference between an ordinary tea and table-spoon. The possible consequences of error are terrible to think of, and carelessness in this respect is unpardonable. It is hopeless for a Doctor to attempt to form a correct estimate of the effects of drugs in particular cases, if his prescriptions are not rightly given according to his directions.

A Nurse *must always read the label*, no matter how familiar she may imagine that she is with it. Every hospital has its sad story of accidents from negligence in this respect. It is

by no means the beginners who are most likely to neglect reading the label. Too often this carelessness is shown by Nurses with sufficient experience to fully appreciate how serious the consequences may be. If an error occurs, the Doctor must be instantly informed of what has taken place. The Nurse, in the midst of her natural distress in realizing what has happened, must take care not to alarm the patient more than is inevitable, and, above all things, not to try to save herself by not telling the full truth as to what she has done.

**Importance
of shaking
the bottle.**

Mixtures that have thick sediments at the bottom of the bottle must be carefully shaken up. A Nurse must not pour out medicines of this kind until she is close to the patient, and sees that he is quite ready to swallow it. If the dose is poured out and allowed to stand, the sediment will be left in the glass, and the patient will not have the benefit of the drug which has been prescribed for him. If the Nurse fails to shake up the mixture at one time, she not only deprives the patient of at least one of the drugs ordered, but she gives in subsequent doses a much larger proportion of that drug than the Doctor intended, and it is easy to understand that this may do positive harm.

To prevent the label getting soiled, the contents of the bottle must always be poured out from the other side, so that if any of the liquid runs down the side of the bottle, the label remains clean and legible.

Every Trained Nurse will take pains to keep the bottles she is using daintily clean, and the corks or stoppers dry and fit to be touched without soiling the fingers. She must never leave bottles uncorked. A Nurse must impress upon her patients that if they wish to taste their medicine as little as possible, they should hold the nose. Without air getting into the nose there can be no taste. Some patients like to have 'something to take the taste away'—a piece of bread, a biscuit, a bit of orange, or some sweets. A nurse must study her patient's fancy in this respect, and give him anything he likes that is not prohibited by the disease from which he is suffering. She must take care to have a handkerchief or something at hand for a patient to

wipe his lips at once. This precaution will sometimes prevent the medicine being vomited by the patient, if he is inclined to sickness.

A Nurse must never make a patient drink off an unpalatable draught when his lips, mouth, and throat are dry, and ready to absorb quickly the first liquid that comes in contact with them. He will taste it much less if his mouth is previously moistened.

Some medicines—notably preparations of iron and steel, or any very acid mixtures—have a destructive influence upon the teeth. Nurses should, as far as circumstances permit, persuade patients to take these medicines through a glass tube. These tubes are made in convenient shapes for the purpose. Failing this, patients should be advised to clean their teeth immediately after taking medicines of this kind.

A Nurse's object is to get the medicine taken properly, with as little discomfort to the patient as care and skill can secure. There is much scope for the Art of Nursing to be cultivated in this direction. Therefore, she must study every detail that will enable her to spare her patients all that is unnecessarily disagreeable. By efficiently carrying out the treatment she gives it a better chance of success.

Between the Doctor thinking of and prescribing a certain drug, and the Nurse getting that drug literally into the patient, there may be many difficulties to overcome. The Doctor, who is more in the habit of prescribing drugs than administering them, sometimes fails to realize this. A Nurse must study the best way of meeting and conquering these difficulties.

Not only children, but adults—those who are perfectly conscious, as well as delirious patients—will refuse remedies from one person and take them readily from another. Why is this? It is not only a difference in manner, but it is partly owing to care in minor details, such as the perfect cleanliness of the glass, and the avoidance as far as possible of forcing the disagreeable smell of a medicine upon the patient by poking the glass straight under his nose while persuading him to take it. If the odour is as offensive as that of valerian, asafoetida, etc., the more the patient

dislikes the smell the less likely he is to be prevailed upon to swallow the mixture.

The hospital method of giving medicines round the ward with a basin of water and a towel, to rinse and wipe the glass, is very good. But a thoughtful Nurse will leave any disagreeable smelling medicines to be given last, and will take care not to victimize all the patients unnecessarily because one patient may chance to have a mixture with an offensive smell.

A Nurse must remember that a strong odour may linger about a glass for some time after it is washed, and might be considered clean. When this occurs, she must fill the glass with cold water, leaving it to stand for a little while, when the smell will soon be absorbed, and the glass can be wiped ready for use.

When giving an effervescing mixture, a Nurse must take care that the glass is large enough not to let it overflow on the patient or the bed, nor must she pour it out in such a way as to let all the effervescence go off before the patient can sit up. If the patient will not take the draught in a state of effervescence, of course the Nurse cannot help it, but she must see that he has the chance of doing so.

**The
adminis-
tration of
oils.**

Oils are the medicines most objected to as a rule, and they must be given with great care. Castor oil should be floated on the top of some fluid—brandy, coffee, beef-tea, lemon, or milk.

It is best to follow the inclination of the patient in this detail, but, generally speaking, brandy answers best. A Nurse must wash the glass well round with the chosen liquid, leaving some of it at the bottom, then pour the oil carefully in the centre, and finally add a little more of the same liquid on the top of the oil. By this means, whatever fluid is used to disguise the taste of the castor oil will be the first and last thing which the patient tastes in swallowing it.

Castor oil is best given on an empty stomach, and this is the general rule for most purgatives.

Some people think that hot beef-tea, made very salt, disguises the taste of castor oil better than anything else. If castor oil is given in this way it must be completely and

thoroughly beaten up with the beef-tea, and not floated on the top of it. Another excellent way is to beat up the yoke of an egg and mix it with the castor oil, adding a little water to make it the right consistency for swallowing.

Cod-liver oil must be given *immediately* after food, without any interval between. It is usually taken without any of the vehicles employed for castor oil. If patients dislike it they must be allowed to take anything after it which they think best calculated to remove the unpleasant taste.

Croton oil is a very strong purgative. It must never be administered without orders from the Doctor. The dose given in the British Pharmacopœia (1898) is from half a minim to one minim. Occasionally two minims are prescribed. It is given in butter or on sugar. It is sometimes prescribed for cases when the unconscious condition of the patient makes swallowing a difficulty.

Iron and arsenic are always best given after meals. I mention this, for though directions for the hours and quantity are nearly always given in each case, these are facts with which a Trained Nurse should be familiar.

Hours for administering medicine. Ten, two, and six are the most convenient times for 'four-hour' and 'three-times-a-day' medicines, when no special orders are given. These times must, of course, be varied according to circumstances.

Pills must be given in any way to suit the patient. Large pills are easier to swallow than small ones.

Powders must also be mixed to suit the case. To give a powder to a baby or a small child, a Nurse must moisten her finger so that the powder can adhere to it, and place it well back on the tongue.

After administering an emetic, a Nurse must always have a vessel ready for sudden and speedy results.

Many drugs are administered by hypodermic injection (see p. 150).

Inhalations. The most critical inhalations are those used as anæsthetics, such as ether, chloroform, and others. But these can be more conveniently spoken of in connection with their use at operations.

Amyl Nitrite. Amyl nitrite is a very powerful drug, which is sometimes employed to give relief in angina pectoris and other serious cases. The correct doses of amyl nitrite are prepared in little glass capsules, containing either three or five minims, to ensure the exact quantity being given, and as an effectual way of excluding this preparation from the air. When required for use, the capsule is wrapped up in a piece of lint, promptly crushed by any convenient means at hand, and then given to the patient to inhale from the lint.

Amyl nitrite is a very strong remedy, and must only be administered in strict obedience to orders.

Some drugs employed for inhalation are dropped on a piece of lint placed in a wire respirator, and worn by the patient according to orders.

Many different contrivances are made for the purpose of giving inhalations. Some necessitate the patient keeping his mouth over the tube or mouth of the vessel, and taking a distinct breath for the purpose of inhaling the vapour. The only objection to this arrangement is, that it may be somewhat fatiguing to a weak patient to keep in the same position for any length of time.

A Nurse must take great care not to scald the patient by having the steam too hot, or from having the whole apparatus upset by him in a sudden struggle for breath, or a violent fit of coughing, which may come on at any moment.

In some cases a Nurse must watch carefully for any tendency to faintness.

Some inhalations have a very soothing effect.

Inhalations of poppy-head water induce drowsiness.

Patients must not be allowed to breathe cold air after hot inhalations.

Some Doctors order an invention known as Siegle's spray for the purpose of impregnating the atmosphere immediately surrounding the patient's mouth, and thus enabling him to inhale the drug ordered without making a special effort to do so.

Another method liked by some Physicians is to heat a small vessel by burning methylated spirit inside it, and directly this has burnt out, to pour the exact quantity of the

prescribed drug on the hot surface, and allow the patient to inhale the fumes.

Absorption of drugs through the skin. When orders are given for the external use of applications containing mercury, opium, belladonna, or other drugs likely to produce a serious effect upon the system, it is important for a Nurse to remember that drugs are absorbed through the skin. When applications of this kind are ordered to be applied locally, they are not, as a rule, prescribed with a view to their general effect on the system by absorption through the skin. But, the fact that this absorption takes place renders it necessary for a Nurse to be very careful as to the quantity of any drug applied at any one time.

When drugs are employed for their local effect, patients are sometimes instructed by the Doctor to apply them themselves. In these cases, if the drug is of a powerful nature, the Nurse must not fail to impress upon the patient the importance of not exceeding the quantity of the application ordered.

Suppositories. Suppositories are small conical preparations which are inserted into the rectum or the vagina. They act as astringents, they check the action of the bowels, and they relieve pain.

On comparatively rare occasions, nourishment in a highly concentrated form is supplied in the shape of suppositories. Patients can often apply these themselves: but, if there is any difficulty, the Nurse must do it for them. The Nurse must dip her finger and the suppository into some oil, and introduce the suppository as far up as she conveniently can.

Effect of drugs. Drugs have specific action, *i.e.* some act as antidotes for poisons, others as tonics, aperients, emetics, expectorants, sedatives, or narcotics. Some drugs are given to reduce temperature, some to cause sweating, some act as astringents, some as stimulants, and some are given to arrest hæmorrhage.

In order to report fully and carefully the effects of medicines, and to carry out intelligently the instructions given for their administration, a Nurse ought to understand to some extent the object for which they are prescribed.

For instance, she must not wake up a patient on purpose to give him a sleeping draught, as well-meaning, unintelligent Nurses have been known to do on more than one occasion! She must report the patient's symptoms and the effects of medicines simply carefully avoiding any officious comment as to what causes she believes these effects to be due. The Nurse's chief object must be to prevent the Doctor remaining in ignorance of the effects. If a Nurse finds certain symptoms are occurring, and she believes them to be due to the drugs prescribed, of course she will not alter the treatment on her own responsibility, but she will take care that the Doctor is duly informed of the *facts* before she continues it. She will thus thoroughly have done the Nurse's part as an intelligent help to the Doctor in the carrying out of treatment.

For the introduction of drugs into the system by means of enemata and nasal feeding, see pp. 136 and 144.

Poisons. Poisons may be taken into the system by the same means as drugs prescribed medicinally, *i.e.* through the mouth or rectum, inhaled through the lungs, and absorbed through the skin.

Hospital Nurses must be habitually careful to keep poisons out of the patients' reach. Poisons must be kept apart from ordinary medicines. They are supplied in different shaped and different coloured bottles, and with different labels to emphasize the fact that the contents of the bottles in question are poison. Unless due precaution is exercised with a ward full of patients, fatal results may occur from the mere fact of poisons being left about. Delirious patients may take them unintentionally. One patient has been known to hand them to another patient at his request, in ignorance of what harm he was doing. There is always a possibility that some patient may suddenly attempt to commit suicide by swallowing any poison he may find at hand. Some poisons are obliged to be used freely in a ward, and cannot be kept wholly out of reach. In these instances a Nurse will need to keep a watchful eye on them.

When in charge of private cases, a Nurse must be scrupulously particular to keep all remedies for external

application and all poisons in a separate place from the medicines which the patient is intended to take. Many a sad accident would never have occurred if this simple precaution against error had been observed.

It is a good plan in an ordinary sick room to place all poisons and external applications in a locked drawer or cupboard, if that is possible, and to put the medicines in some other convenient place.

It is surprising how careless many persons are in mixing together bottles containing internal and external remedies. This is done so often and so thoughtlessly in private life as almost to invite accident in many cases, and Nurses should inculcate habits of carefulness in this respect upon any members of the household who may assist them in nursing the patient.

It is impossible to do more than touch slightly upon the important subject of poisons and their antidotes in a book on general nursing. I can only attempt to speak of a few of those cases with which most Hospital Nurses may have to deal in the course of their experience.

Life literally depends upon promptitude in many cases of poisoning, and it may be impossible for a Nurse to await the Doctor's orders, however much she may long for his guidance.

By poison we mean anything which, taken externally or internally, has the effect of destroying life, speedily or slowly. It need scarcely be pointed out that many poisons are among our most valuable remedies when rightly applied.

An antidote is the remedy to prevent the effect of a poison.

Opium and morphine. In cases of opium and morphine poisoning, hot, strong coffee will almost certainly be ordered. This is frequently administered in the form of a coffee and brandy enema, as well as by mouth. Occasionally atropine is administered by the Doctor, either by mouth or by hypodermic injection, but that is not a remedy that a Nurse must venture upon on her own account. Life depends upon the patient being kept awake until the effect of the drug passes off. There are occasions when, to

secure this, it becomes necessary to keep the patient walking about from time to time. The chief symptoms of poisoning in these cases are contracted pupils, uncontrollable drowsiness, and coma.

Perhaps I should mention that coma is an unnatural state of insensibility resembling sound sleep.

In connection with the good effect of hot, strong coffee in cases of opium poisoning, a Nurse may find it useful to remember how successful a cup of coffee sometimes is in curing the headache and nausea which occasionally follow a hypodermic injection of morphine.

Chloral hydrate. After an overdose of chloral hydrate, the same antidotes will probably be ordered as for opium and morphine poisoning. Cold water is sometimes ordered to be dashed over the head and chest. It is not safe to attempt to keep the patient walking about after chloral hydrate poisoning, in the manner sometimes adopted in cases of morphine poisoning, because after an overdose of chloral hydrate there is a great tendency to heart failure. The chief symptoms of chloral hydrate poisoning are drowsiness, stupor, coma, failure of the heart's action, and cold extremities.

Emetics. When emetics are required, unless the Nurse can immediately lay her hands on powders containing ten to thirty grains of sulphate of zinc, which must be given in warm water, she had better try mustard and water, in the proportion of one table-spoonful of mustard to half a pint of tepid water, or she may try salt and water in the proportion of two table-spoonfuls of salt to half a pint of tepid water. These simple emetics are not always effective, but they have the merit of being nearly always at hand. Sometimes sulphate of zinc is given in combination with powdered ipecacuanha (fifteen to thirty grains) in warm water. It is important for a Nurse to remember that no emetics must be administered in cases of poisoning by corrosive sublimate or White Precipitate.

Belladonna and atropine. For belladonna and atropine poisoning an emetic will probably be ordered, and vomiting has to be encouraged and continued. Lime-water, or magnesia and water should be given

to drink. Astringents, such as decoction of bark, are also given. Occasionally morphine is administered by the Doctor, either by mouth or by hypodermic injection, but that again is not a remedy that a Nurse must venture upon on her own account. The chief symptoms of belladonna poisoning are dilated pupils, dimness of sight, dryness of throat and mouth, pain in the head, delirium, giddiness, and sometimes purging and stupor.

Cocaine. In slight cases of cocaine poisoning, stimulants are administered. Amyl nitrite is usually prescribed in serious cases. The symptoms of cocaine poisoning are numbness of extremities, convulsions, and great excitement. Patients die by failure of respiration, with an extremely rapid pulse.

Arsenic. For arsenic poisoning the best antidote is *freshly* precipitated Ferrie Hydroxide. This can be readily prepared by adding ammonia to Liq. Ferri Perchlor., so, if they are quickly obtainable, a Nurse would be well advised to have them ready at hand for the Doctor's use. The usual antidotes are magnesia and water, charcoal and water, an emetic of ten to thirty grains of sulphate of zinc in warm water, lime-water, and milk. Vomiting should be produced after each draught. In these cases it is most important that the emetic should act effectually. The chief symptoms of arsenic poisoning are pain in the stomach, vomiting, constipation, and burning heat of throat and mouth.

Iodine. For iodine poisoning solutions of starch are the best antidotes. These can be given in the form of arrowroot, tapioca, flour and water, or even boiled potatoes if they are nearest at hand. Vomiting must be caused to expel the poison. The symptoms are similar to severe influenza, with vomiting and extreme depression.

Corrosive sublimate. In poisoning from corrosive sublimate, white of egg should be given in water in unlimited quantities. Albumen (white of egg) acts as an antidote, because it combines with corrosive sublimate or perchloride of mercury to form an inert insoluble compound. The gluten in flour acts in the same way.

Oxalic acid. For oxalic acid poisoning, chalk, lime, or whitening should be given freely in water. In extreme urgency, when lime is not available in any other form, scrapings from the plaster of walls or ceilings may be resorted to. The compound of lime with oxalic acid produces oxalate calcium, and is inert and insoluble.

White Precipitate. White precipitate is a compound of mercury, and albumen acts as an antidote in the same way as it does for corrosive sublimate. For poisoning by white precipitate, white of egg and water in unlimited quantities should be given, also gruel, arrowroot, and barley-water.

Nitric acid. For nitric acid poisoning, soap and water is given, ammonia, sal volatile, magnesia, lime-water, gruel, and white of egg. While it is desirable to give any *alkali*, there are objections to giving bicarbonate of soda, as the rapid development of carbonic acid gas may unduly distend the already damaged stomach.

Phosphorus. For phosphorous poisoning, half an ounce of Epsom salts should be given. A Nurse must avoid giving oil in cases of phosphorus poisoning, as oil dissolves phosphorus and thus promotes its absorption.

Carbolic acid poisoning.* In considering the action of carbolic acid when swallowed, regard must be had to—
(1) Whether it is taken in the pure liquid strong form,

(2) Or whether it is swallowed in a diluted form, such as the 1-20 solution in water.

When swallowed in the pure liquid state, it has a powerful local, caustic, and corrosive action on the mouth, throat, œsophagus, and stomach. Therefore, it at once causes intense pain and profound shock to the nervous system from 'reflex irritation.'

Oil very readily takes up and absorbs carbolic acid, the mixture being much more bland and unirritating than the pure acid. Further, the acid in combining with oil, loses a

* I am indebted to the late Dr. Hayward, of Haydock, for the following particulars concerning the treatment of carbolic acid poisoning.

great deal of its poisonous properties. Carbolized oil is no longer relied upon as an antiseptic dressing. It has been found that while a 1-20 solution in water is a powerful germicide, a 1-20 solution in oil is practically inert. This very property which renders carbolic acid dissolved in oil useless as an antiseptic, makes the use of oil as an antidote in carbolic acid poisoning advantageous.

When a patient has swallowed some strong carbolic acid, the best possible *immediate* treatment is to give olive oil freely—say at least ten ounces. The oil soothes the cauterized mucous membrane, and combines at once with the corrosive acid and diminishes further local action.

However, it is not desirable to leave the carbolized oil in the stomach. It should be got rid of as soon as possible by an emetic, or, better, by washing out the stomach with a soft rubber stomach tube.

Besides the immediate local corrosive action, carbolic acid, when absorbed into the blood, has—

- (1) A destructive action on the blood ;
- (2) A powerful irritant and narcotic action on the nerve-centres, causing collapse, stupor, or coma, and finally, paralysis of the 'respiratory centre.'

When the stomach has been cleared out as completely as possible of the poison, by washing out with oil or pure glycerine, then some sulphate of soda (common salt) or sulphate of magnesia (Epsom salts) should be given, dissolved in water. This is best given in successive small doses of half a drachm every half-hour. This is intended to act on the carbolic acid, which has been already absorbed into the blood. In the blood soluble sulphates combine with carbolic acid to form what are called sulpho-carbolates, which are much less harmful, and which are easily eliminated in the urine.

When these antidotes have been administered, the usual treatment of shock or collapse, in the way of warmth, stimulants, etc., must be resorted to.

If the responsibility of immediate treatment of a case of carbolic acid poisoning falls upon a Nurse, she must—

- (1) Give olive oil freely. An ounce of castor oil may be given if no olive oil is available.

- (2) Then promote the evacuation of the stomach by a simple emetic.
- (3) Then give some sulphate of soda or sulphate of magnesia in solution.
- (4) Apply warmth and give stimulants.

When carbolic acid is swallowed in solution, the amount of local action and immediate shock will be less ; but there may be more rapid absorption, and the effects on the blood and nervous system will be the more prominent. The best immediate treatment in this case also is the same as that just described.

CHAPTER XV

Observation.

A HABIT of quick and careful observation is invaluable in a Nurse. The knowledge of how to use and cultivate this faculty from a Nursing point of view is an essential part of a Nurse's training. The fact of being in constant attendance upon the patient gives the Nurse a greater opportunity even than the Doctor for observing symptoms directly they occur, for noting the varying condition of the patient at different times, and for noticing the apparent effects of treatment.

There can be no doubt that some men and some women have a much larger share of this gift of quick perception than others ; but, in whatever degree nature has bestowed this valuable quality, every one who aspires to become a Nurse must study how to train it for the use and benefit of her patients.

A Nurse observes for the purpose of reporting with absolute accuracy whatever may have taken place between the Doctor's visits.

Manner of reporting to Doctors.

In order to report in a satisfactory manner, a Nurse must remember, as a golden rule for her guidance in this matter, that it is her business to *state facts, not opinions*. She must not enlarge upon what she has to say, and enter into unnecessarily long explanations. If she gives *facts* fully, clearly, and concisely, the Doctor can draw his own conclusions. It is 'untrained' for a Nurse to give an opinion, unless she is asked for it. Even if she is under the impression that other treatment would have been better, or would have been tried by another Doctor, it is not for a Trained Nurse to show that she thinks this, either by word or manner.

A Nurse must be very careful in her manner of speaking of the Doctors before the patients, and must not give them her opinion of their case as distinct from the Doctor's. On the other hand, she must not be afraid to speak out to the Doctor, and so fail to give him a clear impression of what has taken place. She need never fear exceeding her duty if she limits her statements to *facts* only.

If the Doctor has been summoned for any urgent symptom, of course the Nurse will explain at once why he has been fetched.

If the Doctor is paying his regular visit, it is usually best for the Nurse to wait, and to answer his questions in the first instance. The point on which he is questioning the Nurse is that which he has in his mind at that particular moment ; therefore, her answer is likely to receive his best attention. She must give as much information as she can in answer to his questions, and, after that, inform him fully and clearly of everything else that he ought to know. A Nurse must be very careful that before the Doctor goes away he knows everything about the case that there is to be told.

Some Doctors have a manner which makes it difficult for a Nurse to speak to them ; but a Nurse's duty towards her patient makes it imperative for her to tell the Doctor all that it is necessary for him to know, whether her report is received encouragingly or not. As a rule, a Nurse will find that a business-like report is accepted very nicely, when the Doctor once perceives that a Nurse is confining herself to *the statement of facts*, and not inflicting upon him unsolicited opinions.

**Systematic
observa-
tion.**

In order to give the Doctor the clear report he has a right to expect, and to let the patient have the full benefit of a Nurse's trained powers of observation, she must learn to observe systematically, not merely in a haphazard sort of way.

During her training a Nurse will learn that the wards of a hospital are especially places for the observation of disease. Patients are placed in hospitals under trained supervision from morning till night, and from night till morning. There is scarcely any other place where the observation can be so

reliable, where treatment can be tried so carefully, with so much safety, and with so many experienced minds to watch results.

I need not enlarge on the valuable assistance experienced Nurses can render if they are quick to observe, and perfectly accurate and truthful in their reports.

**The use of
'senses.'** Nurses must use their senses in due order, and mentally record what these senses teach them. Sight, touch, smell, hearing, have all to be trained to do their duty from a Nursing standpoint. Experience alone will enable a Nurse to realize the value of each in turn. Doctors aid these senses by the microscope, the clinical thermometer, the stethoscope, and many other appliances; but Nurses can ascertain all that it comes within their province to know without the aid of any of these things except the clinical thermometer.

When patients enter the ward, a Nurse must notice *the way they walk or move*, whether it is with difficulty, or easily; the extent of their helplessness—if it exists; their *colour and general complexion*, whether livid or pallid; the *pupils of their eyes*, whether they are contracted or dilated, whether they are of the same size; whether there are any injuries, and of what nature they appear to be; whether the patient complains of pain, and exactly where it is. A Nurse must remember to quote the patient's own words in describing pain. She must also notice whether the breathing is normal, or of what character it is; whether the patient has any difficulty in swallowing; whether the motions and urine are passed in a natural manner, or unconsciously, and of what character these are; whether there are any twitchings or convulsions. Then again, as to the patient's mental condition. A Nurse must notice whether he is tranquil, and apparently comfortable; whether he is indifferent to his surroundings, or unconscious of them; whether he is in a state of stupor, of wandering, or of quiet or of active delirium.

A Nurse will not need to comment upon details that are all right, but she must always notice them. If she is asked a question on any one of these points, she must be *quite sure* that she is able to give an answer founded on accurate

observation. This routine system of general observation should be in a Nurse's mind in reference to all patients, in addition, of course, to the special symptoms of the disease from which the individual patient is said to be suffering.

A Nurse must report everything that is abnormal, unless the symptom in question is equally apparent to the Doctor.

Doctors will value or dislike a Nurse according to the way in which she makes her reports. I do not mean by this that one manner of reporting will suit all Doctors. Doctors differ as much as other people, but one of a Nurse's strong points should be her adaptability. If she can adapt herself to the Doctor, and yet take care that he is placed in the fullest possession of everything concerning the patient that he ought to know, that Nurse will be of great service, not only to the Doctor, but to the patient. It has to be borne in mind that a patient too often cannot speak for himself. It is on the symptoms which arise that the treatment is based. Therefore, a Nurse's quick observation, and accurate report of symptoms will frequently have a direct influence on the treatment prescribed.

A patient who has an unobservant Nurse is indeed in a helpless condition. If the Nurse is unhelpful and unintelligent, the Doctor can only act on his general knowledge, whereas it is of the greatest advantage to the Doctor and patient to have an accurate report concerning the individual case.

Doctors dislike a fussy report very much indeed. They do not want to be rushed at with a voluble explanation; they do not want a Nurse who tells every symptom, and enlarges upon it when they have a very anxious case to consider and grave possibilities to think out. If a Nurse acts in this manner, she need not be surprised if the Doctor ignores her report to a great extent, and does not pay much attention to what she is saying while he is following out his own train of thought.

A Nurse can ascertain by her sense of touch the comparative heat and cold of her patient. She can learn the actual temperature of the body by the careful use of the clinical thermometer. But, in addition to this, by her sense of touch she will know whether the skin is dry and

burning, whether it is moist and hot, whether it is cold and clammy, whether it is cool, or warm and comfortable. She must notice whether the feet and hands are cold or not.

Certain diseases have characteristic odours, which experience alone can render familiar to a Nurse.

Vomiting is a symptom that a Nurse must report and notice. She must also be extremely careful about saving the vomited matter, according to orders, remembering to keep it covered, particularly if from an infectious case.

Only careful observation and practical experience in the wards can teach a Nurse the character of motions. She must always notice the colour; whether they are formed, solid, or liquid; whether they contain undigested food, worms, any streaks of blood, or of pus. If a Nurse observes anything abnormal in a motion, she must always save it for some one more experienced than herself to see, whether she has had orders to that effect or not.

A Nurse must be careful not to throw away motions when orders have been given for them to be saved for inspection. Neglect in this respect is thoughtless and inefficient. Mistakes of this kind do not occur when a Nurse is giving her mind to her business.

A Nurse must always be able to inform the Doctor whether the patient's bowels have acted, and how many times, and when. She must also, when necessary, call his attention to the fact, if they have failed to act.

Urine test- Nurses have frequently to save specimens of
ing. urine for testing. In doing this they must be scrupulously careful as to the cleanliness of the vessel into which the urine is passed, and in which it is saved for inspection. It must be kept covered to prevent dust getting into it. Unless the Nurse is careful, minute particles from the towel with which she wipes the specimen glasses will adhere to them, and cause inconvenience to those who have to examine the urine.

If in hospital a Nurse notices anything abnormal about the urine, she must save it for the Sister, or, in private cases, for the Doctor to see, without any special instructions to do so. For instance, the dark, green, 'smoky' appearance, indicating that the urine contains carbolic acid, may be

passed over unknown, if the Nurse, who may be the only one who has the chance of noticing it, is unobservant and careless enough to throw it away. This may be one of the first indications that carbolic acid, which may be employed for dressing or irrigating septic wounds, is being absorbed into the system, and it is an important symptom that must be immediately reported to the Doctor.

It may be interesting for Nurses to know that urine passed after taking food is the most acid, and that while digestion is going on it becomes almost alkaline. With animal diet there is less acidity; with vegetable diet there is an excess of acid.

Acid urine turns *blue* litmus paper *red*. Alkaline urine turns *red* litmus paper *blue*.

The normal quantity of urine passed in twenty-four hours is about fifty ounces. Nurses are frequently required to measure the quantity of urine passed in the twenty-four hours, and to take the specific gravity. Doctors sometimes prefer the specimens saved for examination to be taken from the whole quantity of urine passed in the twenty-four hours.

Every Nurse should take an early opportunity of learning to read the urinometer, and of becoming acquainted with its use. Nurses must remember that this measurement, like the degrees on the thermometer, is a purely arbitrary statement. It has been decreed that the specific gravity of water should be represented by a definite figure of 1000, and that this should be taken, so to speak, as the starting-point. The acceptance of this statement enables this scale of measurement to convey a definite and universally the *same* idea.

The specific gravity of healthy urine varies from 1015 to 1025. Below 1015 albumen is usually looked for; above 1025, sugar.

In certain physical conditions the urine may contain other substances, such as albumen, sugar, bile, blood, and pus.

Nurses are almost sure to be interested, as their experience grows, in finding out what are the different tests for ascertaining whether and in what proportion the urine contains either of these things. I advise all Nurses to

become as proficient as they can in the testing of urine. But, as in ordinary circumstances, this does not come strictly within the Nurse's province, it would not be suitable to enter into further details on this subject in a book on 'General Nursing.'

A Nurse must notice, also, if there is anything abnormal in the manner in which the urine is passed; if there is 'retention,' or any pain and difficulty; if with stoppages at intervals, as usually happens with 'stone cases'; if there is 'incontinence' of urine. It is a Nurse's duty to observe if no urine passes for an exceptionally long time, and to call the Doctor's attention to the fact. Every Trained Nurse must know enough physiology to understand that the lungs, the skin, and the kidneys are three of the chief means by which impurities are removed from the system. Any defective action on the part of any one of these organs throws additional labour on the others. The importance of noticing and of calling the Doctor's attention to any symptoms of this kind is sufficiently obvious.

A Nurse should be aware of the fact that a patient may suffer from 'retention' and 'incontinence' of urine at the same time. In such cases she must be careful that the recognition of one symptom does not lead to the other being overlooked. The patient's condition may be such that the urine may constantly be dribbling away in small quantities, and this may be at least partially due to the fact that the bladder is over distended, and that the patient cannot get relief until the catheter is passed. It would be difficult to exaggerate the importance to patients, who are in an unconscious condition, or who are in other respects gravely ill, of a Nurse's careful attention and intelligent observation in matters of this kind.

'Retention' of urine causes great pain at intervals, and a Nurse must do everything in her power to procure the desired relief as promptly as possible. In many cases Doctors order these patients a hot hip-bath.

'Suppression' of urine is a very different thing from 'retention' or 'incontinence.' It is one of the most serious symptoms from which a patient can suffer, and one which will cause the Doctor the gravest anxiety concerning him.

These are the chief points to which trained intelligent observation should be directed in taking care of the sick. Every Nurse who acquires the habit of systematic as well as spontaneous observation, will find that it spares her much anxiety. There are cases in which it will prove of incalculable benefit to the patients entrusted to her charge.

CHAPTER XVI

Ventila- tion.

A COMPETENT Nurse will not limit her systematic observation to the patient himself.

She will extend it to his surroundings, for these will have a distinct influence on the patient's welfare. She must not only exercise her ingenuity in making the most comfortable arrangement of the sick-room that circumstances permit, but she must study the ventilation, the warmth, and light of her ward or sick-room, taking care that, as far as possible, the patient shall get the benefit of a fresh, wholesome atmosphere night and day.

Much of the old teaching in regard to ventilation has proved to be erroneous, so that some of the practical methods formerly adopted in accordance with this are now obsolete.

Formerly Nurses were trained to keep the atmosphere immediately surrounding their patients at as *even* a temperature as possible. The following instructions, given on such unimpeachable authority, will make Trained Nurses realize that within certain limits a *variety* of temperature is desirable. If this knowledge is applied practically in a common-sense manner, patients will experience relief and derive benefit from it.

The manifestations of Life* result from a series of chemical changes which take place in the tissues of the body. Ventilation in its widest and truest sense means the effect

* I am greatly indebted to Professor Leonard Hill, F.R.S., and to Mr. R. A. Rowlands for the following statements which will enable Nurses to understand the Scientific conclusions, based on wide knowledge and extensive experiments, which necessitate different practical methods, in accordance with modern views.

of the surrounding atmosphere or air upon these processes.

The atmosphere is composed of a mechanical mixture of various gases, *i.e.* oxygen, nitrogen, carbon dioxide (so-called carbonic acid gas), water vapour and minute traces of some rare gases, which so far as we know are quite inert, and have no effect on the body.

Oxygen constitutes one-fifth part by volume of the atmosphere, and is absolutely necessary for the maintenance of life. It passes from the air into the blood which is circulating within the capillaries of the lungs, and forms a loose compound with the pigment of the blood called Oxyhæmoglobin. The blood carries the oxygen to the tissues, and it there enters into chemical combinations with the foodstuffs which are burnt, or oxidized, and the energy liberated by such process is used to maintain the life of the tissue cells.

Ventilation goes on through every crack and crannie of a room, and even through the pores of a brick wall. Warm air is lighter and rises, and cold air will find its way in and warm air out of a room, even if all the doors and windows are shut. Hence when chemical analysis is made of the air of the worst ventilated school-room or theatre, the oxygen is found to be never lessened by more than 1 per cent. of an atmosphere.

In the air within the lungs there is only about 13 per cent. of oxygen. Even less than this suffices to arterialize the blood, for the Hæmoglobin is very greedy for oxygen. So long as the percentage of oxygen within the lungs is maintained about 13 per cent. it does not matter in the least what is the percentage in the room. It has been thought that the diminution in the amount of oxygen is an important factor in producing the ill effects of bad ventilation, but there is nothing in favour of this. It is well known that as we ascend from the sea-level, the air becomes attenuated and the weight of oxygen in each cubic foot of air decreases, so that in the noted health resorts of Switzerland, the weight of oxygen in each cubic foot of air is much less than in the most crowded ill-ventilated rooms. On some of the high plateaux of the Andes the air is so thin that the

oxygen in the air is equivalent to 13 per cent. instead of the normal 21 per cent. measured at sea-level. The inhabitants at these heights are able to live healthy lives and suffer no disability. A new-comer on going to these regions will often suffer from mountain sickness, and the cause of this is want of oxygen, but he will become accustomed to the new conditions in a few days, and compensate for the diminution in oxygen by increasing the percentage of hæmoglobin in his blood.

There is no evidence to support the idea that a decrease of 1 per cent. oxygen is sufficient to account for any of the ill effects of bad ventilation.

Nitrogen forms four-fifths of the atmosphere by volume. It is a very inert gas, *i.e.* it is only with the greatest difficulty that it can be made to combine with any of the other elements. It does not help to maintain life, but dilutes the oxygen. A small amount of it is always present dissolved in the blood, and under ordinary conditions it has no effect upon the body. When persons are exposed to high atmospheric pressure, *e.g.* in diving dresses or working in caissons under water at depths of 100 feet or so, the amount of nitrogen dissolved in the blood is greatly increased, because the amount of gas dissolved is directly proportional to its pressure.

When the pressure is decreased the excess of gas in solution escapes, and if the decompression of divers and caisson workers is done quickly and carelessly, the nitrogen is let free and forms bubbles in the blood which interfere with the circulation. Sometimes the blood vessels in the nervous system with its vital centres are involved, and this results in paralysis, or death may occur within a few minutes from bubbles forming in the heart and blocking up the vessels in the lungs. The danger to which divers or caisson workers is exposed, is prevented by slowly decompressing them, and giving time for the dissolved nitrogen to escape from the lungs.

Carbon dioxide. Carbon dioxide—a compound of oxygen with carbon—is one of the chief waste products which results from the processes of oxidation which go on in plants and animals. It forms

0.04 per cent. by volume of the atmosphere. Carbon dioxide exhaled in the breath has been looked upon as a poison, and the whole aim of ventilating engineers in the past has been to keep the percentage at its lowest. The Board of Trade regulations dictate that the percentage of carbon dioxide should not exceed 0.125 per cent. in any form of workshop or factory.

In the worst ventilated rooms the percentage of carbon dioxide never exceeds $\frac{1}{2}$ to 1 per cent. The breathing, *i.e.* ventilation of the lungs, is so regulated that the air within the lungs is always kept at 4 to 5 per cent. So that the variation in the carbon dioxide of the atmosphere of ill-ventilated rooms can have no effect whatever upon the amount within the lungs.

When accurate experiments are performed of breathing air containing increasing amounts of carbon dioxide, it is found that the only effect produced when the percentage is raised to 1 per cent. is a slight deepening of the respiration. It is evident then that the ill effects of badly ventilated rooms are not due to the increase of the percentage of carbon dioxide. The percentage of carbon dioxide found within the lungs, *i.e.* 4 to 5 is necessary for the welfare of the body ; it gives the requisite stimulus to the respiratory centre, a group of nerve cells in the lower part of the brain, upon which the regulation of the process of respiration depends.

Water vapour. The amount of water vapour in the atmosphere is variable, depending upon the temperature. On a cold, foggy morning the air is saturated with water vapour, rising from the wet and warmer ground. If you heat this air it becomes drier and the fog disappears. The warmer the air the more water vapour can it hold. Dew forms on a glass of iced water because the air in contact with the glass is cooled, and can then hold less water vapour.

The amount of water vapour per cubic foot in the air at a certain temperature is called its absolute humidity for that particular temperature. The ratio of the amount of water vapour in a cubic foot of air to the amount of water vapour present in the same volume at the same temperature

when saturated is called its relative humidity. Thus on a bracing summer day the absolute humidity may be greater, and the relative humidity less than on a dull November day, and the summer day owes its charm to a certain extent to its lower relative humidity.

The amount of water vapour in the atmosphere has a great effect upon our comfort and welfare because it influences our feelings of cold or warmth, the rate with which we lose moisture from our skin and air passages, and our body heat. It should be the object of any person interested in the ventilation of a room or building to keep its relative humidity at a right level. The readings of the wet bulb thermometer, when compared with the ordinary dry bulb enable us to find out the relative humidity. To obtain wet bulb readings tie a piece of wet muslin round the bulb of an ordinary thermometer and move this to and fro in the air until the reading is steady. It is comfortable to have a break of not more than 5 or 6 degrees between the wet and dry bulb, *e.g.* 56 wet bulb and 62 dry bulb.

Another important question is the supposed exhalation of poisonous organic substances in the exhaled air and from the skin. It has been confidently asserted that such poisonous exhalations are given off, and are the cause of the headache and stuffiness felt in crowded rooms, and that the victims of the Black Hole of Calcutta died from the exhalation of these compounds. One writer even stated that 'Much of the mortality of infant and adult life may be due to the rebreathing of poison excreted by breath and skin.'

No trustworthy evidence has been brought forward to prove that such volatile organic compounds are excreted in the expired air or from the skin, and such theories are entirely without any foundation.

From the above facts it is seen that the slight variations of the chemical composition of the atmosphere made in any badly ventilated rooms, have no effect upon the functions of the human body. The question arises how to account for the ill effects produced by living under such conditions.

We have said that Life depends on a series of complex chemical reactions. Food is taken into the alimentary

canal, and there broken down into simpler compounds suitable for absorption by the mucous membranes of the intestines, and thereby carried by the blood stream to the tissues. Oxygen is absorbed from the alveoli of the lungs by the hæmoglobin of the blood and carried to the tissues, where it enters into chemical combination with the food-stuffs which undergo oxidation or combustion. By such processes the chemical energy which holds the elements in the foodstuffs together, is liberated and used by the tissue cells to maintain the life of the body, its heat and power to move. The products of such reactions are carbon dioxide, water and other simple or organic compounds such as urea, etc. Some of these are excreted in the urine and others in the expired air. The temperature of the human body remains practically constant in all conditions of normal health so that the heat loss is equal to the heat production. Heat is lost in the urine, fæces, expired air, and mainly from the skin.

Heat is lost from the surface of the body by four physical processes, *i.e.* conduction, convection, radiation and evaporation. When one end of a poker is placed in a fire the other end soon becomes heated, for the heat is carried along the poker by a process of 'conduction,' *i.e.* the molecules of the portion in the fire are first heated, and these give up some of their heat to the next molecules, and these in their turn to those in contact with them. 'Convection' is only possible in liquids or gases, the air in contact with the body is heated, its molecules expand and become lighter, these move away and are replaced by molecules of lower temperature, these again are heated, and thus the body will continually lose heat as long as its temperature is higher than that of the surrounding air. Movement of the air greatly favours convection, and clothes, by entangling the air in its meshes, lessen convection. Cellular clothing and the layers of our garments keep us warm because of the air entangled therein. The air is a bad conductor of heat.

Heat also passes from one body to another, without heating the intervening medium, and such process is called 'radiation.' An open, or a modern gas fire radiates heat to us. Anthracite stoves and hot-water tins chiefly heat the

air by convection. Radiant heat, like that of the sun or open fire, and cool air are the healthiest conditions.

'Evaporation' is the conversion of water from its liquid to its gaseous state, and it takes place on the surface of the body. Sweat is secreted by the sweat glands and evaporated on the surface of the skin. A very large amount of heat is required to change water from its liquid to the gaseous state. The rate of evaporation from the surface of the skin will depend upon the relative humidity of the surrounding air, the temperature of the air in relation to that of the body, and the movement of the air.

In a crowded ill-ventilated room the air is stagnant, its temperature is raised, and the amount of water vapour present is increased. The physical condition of the air prevents the proper rate of loss of heat from the body, it retards the four physical processes described above, *i.e.* conduction, convection, radiation and evaporation. As a consequence the body makes greater effort to keep its temperature constant, and the blood vessels of the portion of the body in contact with the air dilate, thus the skin and the lining membrane of the upper respiratory tract become red and flushed, and a smaller amount of blood is available for the supply of the brain, viscera and the muscles.

The evil effect may go still further, and retard the actual production of heat in the body, the rate of metabolism is decreased at first more especially in the muscles; consequently muscular contraction and tonicity is less efficient, and these are the two most important factors which aid the return of venous blood to the heart. Aided by the valves in the veins every muscular movement helps to pump the blood back to the heart. As a result the blood stagnates in the peripheral tissues, and the heart attempts to correct this and to maintain the cooling of the body by beating more rapidly, and this results in exhaustion of the heart, fatigue and faintness. The tissues are not so well supplied with nourishment and oxygen, consequently the chemical changes, or their metabolism upon which their vitality depends, are carried on at a much slower rate.

The white blood corpuscles and all the other defensive agents of the body are not so capable to do their work, and

this results in a diminished immunity to every form of infection.

The skin is not merely a protective structure and a means for regulating the heat loss, but it is a complex sense organ. In a moist uniform stagnant atmosphere there is no change in the rate of stimulation of the nerve endings of the skin, and the number of afferent impulses carried from the periphery to the central nervous system is diminished, consequently the number of impulses carried away from the nervous system to the tissues is lessened, 'the influx of sensations keep us active and alive, and all the organs working in their appointed functions.'

In an ill-ventilated crowded room the number of bacteria is greatly increased, and the lining membrane of the upper respiratory passages under such conditions is more exposed to infection. It has recently been shown that when people are confined in an over warm atmosphere, the mucous membrane of the nose and throat, just as the skin swells and is flushed with blood and pours out secretion to cool the body, the nose also swells where the head is in warm air and the feet are cold. Then an invisible cloud of saliva is sprayed out from the mouths of people when they speak or cough, and is sneezed out. When people have colds, sore throats or phthisis, the disease-producing bacteria are also sprayed out and spread for yards around—thus infection is spread. People with colds should be particular to cough and sneeze into handkerchiefs, and not talk directly at and close to others. A paper held in front of the mouth whilst speaking will catch the saliva spray, and this is a simple precaution to take. When we pass out of heated rooms into cold air, the blood vessels constrict in the nose, but the swelling and secretion remain, and may afford a medium for the bacteria to grow in. The most essential thing to secure then, in order to obtain good ventilation, is warm feet and a constant supply of cool, gently moving air, so that the heat loss is kept up at the proper rate. The sense organs in the skin are pleasantly stimulated, the blood vessels of the skin and mucous membrane of the respiratory passages are constricted, a proper blood supply is sent to the brain and viscera, then

vigour and appetite are maintained, and the mucous membrane of the nose and throat not easily infected by pathogenic micro-organisms.

It is very important that the ventilation of the sick room or the wards of a hospital, should be most efficient, and the Nurse must have an intelligent idea of the conditions necessary to attain it. The curing of disease and the healing of wounds is brought about by the activity of the tissues themselves, and the most that the Science and Art of Surgery and Medicine can do is to place the patient under the best possible conditions for the performance of these reparative processes.

The methods of ventilation are divided into two classes, *i.e.* natural and artificial.

By natural ventilation is meant any method that depends on the natural forces that cause movement of the air, and does not necessitate the application of any mechanical appliance for its renewal. In artificial ventilation the air is renewed by means of fans, pumps or bellows.

Natural ventilation depends upon three factors—diffusion of gases; change in density and convection currents caused by heat; the force of the wind. Diffusion is a property common to liquids, and gases whereby their molecules are able to move even against gravity. It is too slow a process to have much effect in ventilation. When air is heated it expands and becomes lighter in weight. It will rise up and cold air will take its place. Winds are produced in this way, by the unequal heating of the air over different parts of the earth's surface. Winds are powerful ventilative agents, and act in two ways: (a) by perflation—setting the masses of air in motion and driving them onward by propulsion; (b) by aspiration when wind passes over chimneys or a tube at right angles to its course, it causes a diminution in pressure within and thus creates a current of air up the chimney, and fresh air must be drawn into the room below to take its place. This aspirating action of the wind is always increased to a great extent when there is a fire burning below.

Two methods of artificial ventilation are being used. (a) Extraction or vacuum method, where mechanical

appliances are installed to withdraw the impure air from the room, and, in order to keep the pressure inside, constant fresh air from outside is drawn in through special openings ; (b) Propulsion or Plenum method—fresh air is mechanically forced into the room and the impure air is forced out through special openings.

Both Extraction and Propulsion may be combined.

Artificial methods of ventilation are rarely installed in private houses or hospitals, and much better results can be obtained by a natural method of ventilation. The inlets should be windows open at the top or orifices placed about ten feet from the ground. Ventilation is always improved by having a fire in the grate. The best conditions are obtained with open windows and radiant heat. If heating coils are used, the air should be introduced by windows open at the top, or orifices ten feet from the ground, and a fan may be used to extract the air on the passage side of the room or in the ceiling. The cold air gently drops and keeps the head cool while the feet are warm. Air should not be introduced at floor level and should not be heated.

Indicators It must be borne in mind that the aim of of the con- any form of ventilation should be that the dition of bodies of the occupants of the room should ventilation lose their heat at a sufficient, and, within certain of a room. limits, variable rate. Generally the only test applied is that of temperature, and the ideal aimed at often is to obtain an even temperature somewhere between 62° and 64° Fahr. The ordinary thermometers only indicate the average temperature of the room, and do not tell us anything about the rate at which the occupants lose their body heat. Two rooms may have the same temperature and yet one would be said to have good ventilation and the other bad.

Most sanitarians advocate a difference of 4 to 5 degrees between the two thermometers. The use of the wet and dry bulb thermometers gives us an indication of the humidity of the atmosphere and tells us more than the single thermometer, but still two rooms may have the same dry and wet bulb temperature, in one the ventilation would be good, and in the other bad.

Recently Professor Leonard Hill has devised an instrument to determine the power of cooling of the air in a room. It consists of two large bulbed spirit thermometers. The bulb of one is covered with muslin. The stems are marked at 110°, 100° and 90° Fahr. The bulbs are heated to 110° Fahr. in warm water, then are taken out and the bulb of one is dried and the excess of water on the muslin surrounding the bulb of the other is jerked off. They are allowed to cool and the time taken by the menisci to fall from 100° to 90° noted. The wet bulb loses heat by evaporation, and the dry by radiation and convection. On an ideal spring day the wet took 45 seconds, and the dry 2 minutes 20 seconds to fall from 100° to 90° Fahr. In a room with closed windows and door, and heated up to 70° Fahr. by an anthracite stove, they took respectively about 1 minute 30 seconds and 5 minutes. In such cases the conditions must be altered so that they fall in times approximately to those of the ideal spring day.

Professor Hill states that the ventilation and heating in rooms should be arranged so that the instruments fall from 100° to 90° Fahr. in about 45 seconds, and 2 minutes 30 seconds respectively, and that the rate of cooling should be more rapid at head than at feet level. Then comfort and healthy conditions will be obtained, particularly if the source of heat is a radiant one—an open fire or modern gas fire.

It has been said above that one of the most beneficial properties of open air is the stimulating effect of the movement of the atmosphere upon the nerve endings of the skin, and reflexly through the nervous system, result in increasing the vigour of the body. Persons who live an open air life are more sensitive to this aspect of the ill-effects of stagnant air, than those who live an indoor life, thus it is the duty of a Nurse to spend as much time in the open air as possible, not only for the sake of her own health, but by such means she becomes sensitive to the ill-effects of rooms where bad ventilation prevails. She will then be able to judge better the atmospheric condition of her sick room or ward, and to take effectual means to obtain good ventilation.

Every Nurse during her training will have been impressed

with the attention paid in a hospital to keeping the wards fresh. There are many useful ventilating appliances to facilitate the removal of impure air, and to introduce as much fresh air as possible from outside. Without in the least disparaging any scientific apparatus which assists in maintaining a pure atmosphere in the wards, or without wishing to detract from the merits of any of the new inventions which are constantly being employed for this purpose, the most effectual method of ventilating within the Nurse's control is opening the windows a few inches *from the top*. In ordinary surroundings nothing entirely supersedes this plan. If a Nurse opens a window a little at the bottom she will get a draught, probably coming directly on the patient and all the inmates of the room, and run the risk of giving them rheumatism, stiff necks, and general discomfort, and that, too, without fulfilling her object of thoroughly purifying the air.

It is all very well to throw up the windows at the bottom when the external air is so mild and pleasant that a Nurse can give her patient the benefit of it without risk of chilling him, but it is of no use attempting to keep the atmosphere fresh by this plan.

Systematic ventilation. It requires plenty of judgment and common-sense to ventilate judiciously. Nurses have to fight against the proverbial horror of fresh air peculiar to the class of people from which most hospital patients come, and which is frequently shared in, to a large extent, by those who are better educated, and yet have not studied the subject sufficiently to have overcome the popular prejudice. I fear this prejudice is strengthened, or, at any rate, it is much slower in dying out, because Nurses who have grasped the notion that an abundant supply of fresh air is indispensable, frequently forget that cold and draughts are discomforts, and sometimes dangers, to which their patients must not be exposed.

If a Nurse allows her patients to be cold as a consequence of bestowing fresh air upon them, it is not to be wondered at that they prefer being warm and so far comfortable, to being thus clumsily ventilated. A Nurse must remember that in some cases by chilling a patient she may cause fatal results.

Patients who are in bed can always be kept warm with extra blankets or hot bottles, and yet allowed to have the air they breathe as pure as though they were out-of-doors—at least, that is possible in well-built wards and rooms, and it is always the Nurse's duty to do the best her circumstances will permit to attain this object. Nurses do not want to air their wards from inside the building, but from outside. They must not forget that 'if windows are made to open, doors are made to shut.' If there is any necessity to have the door opened for a time, the window must be shut for that time, and patients must not be kept shivering in the draught because 'it won't be for long.' That is no reason for making them feel cold.

The windows near the patients must be closed when the Doctor is examining them, when they are washing, or in any way exposed; but the ward must not be allowed to get close by the Nurse forgetting to open them afterwards.

Nurses must take as much care of themselves in their own bedrooms as they do of their patients in the wards.

Only those who have experienced it can form an adequate idea of the difference it makes if they have been sleeping in a room where a fresh current of air has been circulating freely, or if they have been sleeping in one where it has been carefully excluded. If a Nurse has opened her windows at the top and ensured this, she will find that it does not require half such an effort to get up when she wakes, and that the tendency to headache, which every one feels after sleeping in a close room, is to a great extent removed.

It is not only physically but mentally beneficial to avoid an impure atmosphere. When people are cross and irritably inclined to quarrel with themselves and everybody with whom they come in contact, it sounds somewhat ridiculous to suggest by way of a remedy that the window should be opened; yet it would probably be found effectual in many instances in removing the fundamental cause of the mischief. So much is within a Nurse's own control in these little matters which affect health and comfort to so large an extent in everyday life, that it is a great pity not to understand them, or to neglect to carry them out.

If a Nurse is not quite sure whether the room or ward

is fresh, she can always settle the point by leaving it and entering it again. Those coming into a close atmosphere are far more conscious of it than those who, by remaining in it, have gradually become accustomed to it.

It is a great mistake for a Nurse to suppose that letting out the fire will improve the ventilation; the exact opposite is the case. It will make a room *colder* to let out the fire, but not *fresher*—very far from it, as the escape of warm air creates continuous circulation of air in a room.

The broad rule for ventilating, with common-sense modifications to adapt it to circumstances, is, 'make up the fire, open the windows *at the top*, and shut the door.' If the weather renders a fire inadmissible, of course the Nurse will be careful to see that the chimney is open, and she will not allow it to be closed up on any pretext whatever. A lamp placed in the grate will ensure sufficient draught for the purposes of ventilation.

**Tempera-
tures of
wards.**

The temperature of medical wards is generally considered best from 64° to 66° Fahr. Surgical wards are not kept above 60° Fahr. as a rule, but sometimes Surgeons like them a degree or two above that. The feelings and wishes of patients on this point should be regarded as far as possible by the Nurse, as there may be a considerable variety in the actual warmth of the patient's room in many illnesses, without detriment to the patient. In ordinary cases the Doctor has to trust a great deal to the Nurse's tact in such matters, but she can, of course, appeal to him if she has any anxiety on the subject. If it should happen that after a Nurse has done her best to regulate the temperature, the Doctor comes in and remarks, 'This room is far too hot,' or 'This room is much colder than it ought to be,' the Nurse must take it tactfully, and be slow to make excuses, or to make explanations in the patient's presence. Afterwards, she must, of course, explain matters to the Doctor. The fact that the Doctor has remarked upon the temperature of the room will often have considerable influence upon the patient, and make him more amenable, though up to that time he may cheerfully have ignored the Nurse's advice on the subject.

No hard and fast rule can be given as to what the exact temperature of a sick-room ought to be, unless the Doctor gives special orders in any particular case. *The* important thing for a Nurse to remember is that she must pay careful and continuous attention to the matter.

Habitual use of ward thermometer. Nurses must regularly look at the ward thermometer whenever they come on and whenever they go off duty, besides referring to it if they are in any doubt as to the *warmth* of their ward.

A Nurse must always endeavour to procure a thermometer for a sick-room, if she does not find one on her arrival. Most private Nurses find it convenient to have one in their own possession to use in case of need.

It is important that the temperature of the ward or sick-room should not be let down at night, more especially towards the dawn, when all night-watchers are familiar with that peculiar 'chill' which precedes the early morning. A Nurse must regulate the fire accordingly, and not allow it to get low just at the time when its warmth is most required.

Nurses must remember that the thermometer will indicate the *warmth* of the ward or sick-room, but not the *freshness*. This is a point that Nurses sometimes fail to appreciate. If any one remarks, 'How stuffy this room is!' or, 'This ward is very close!' many Nurses will reply, 'But it is only 62° Fahr. or 64° Fahr.!' This may be absolutely true, but if the windows have been closed, and no fresh current of air has passed through for some time, the atmosphere will be oppressive, and not good either for the patient, or for those about him.

Some patients like an exceptional amount of fresh air, and evidently find relief from it. In most cases a Nurse (if she sees that her patient is properly wrapped up) may safely indulge this desire.

If a Nurse pays special attention to the question of ventilation and fresh air for her patients throughout her training and her subsequent experience, she will soon learn how to adapt these conditions to the welfare of very different patients and cases. This is one of the questions that a Nurse must study practically with a very open mind, for

preconceived theories, or hard and fast rules, will often lead her far from the best that circumstances would permit.

Making up fires quietly. It is a difficult matter for a Nurse to make up the fire without waking her patient. She is often puzzled how to keep up the temperature of the room without disturbing his sleep.

Many ways are suggested for making up fires quietly. A Nurse must, of course, put on the coal with gloves.

If perfect quiet happens to be of extreme importance, I have found that wrapping separate lumps of coal in pieces of soft paper—of course not brown paper which has a strong smell in burning—and placing them apart from each other on a newspaper (away from the fire), ready for use when the patient is asleep, reduces the risk of noise to a minimum. The paper round the coal softens the noise if it knocks against the bars of the grate, and keeping the pieces of coal separate prevents any extra sound arising from the lumps of coal knocking against each other. These precautions are only necessary in acute cases.

Of course a Nurse will choose some opportunity of stirring the fire and making it up thoroughly when the patient is awake.

I need scarcely warn Nurses to be extremely careful not to knock up against the fire-irons.

Light. The light of a sick-room must be regulated as far as may be to suit the needs and inclination of the patient. A little variety in this respect often affords considerable relief.

It must be remembered that dark rooms are never fresh, however much air may be passing through them, and dark corners are not healthy. Any dark or shady corner will retain a disagreeable smell long after it has disappeared from the rest of the room, even if there is plenty of air in the immediate neighbourhood.

Artificial light. The artificial light must also be carefully regulated and adapted to circumstances. Electric light, which fortunately is far more generally available than was formerly the case, is by far the best artificial light for use in a sick room. It can be switched on and off with the utmost promptitude, and can be easily shaded as desired.

CHAPTER XVII

It is scarcely possible for a Nurse to work for any length of time in the wards of a hospital without coming across those sad cases where the united efforts of Doctors and Nurses prove unavailing to save life, and the patient dies.

It would not be suitable in a book on 'General Nursing' to enter scientifically and minutely into the physiological aspects of 'life' and 'death.' But it is desirable for all Nurses to know what are really the essential and vital functions on which the continuance of life depends.

Whatever the actual or immediate cause of death may be, death only occurs in two ways : *—

- (1) Either by *failure of the circulation* (i.e. stoppage of the heart), or
- (2) By *failure of respiration* (i.e. by the cessation of breathing).

Failure of circulation. Death from failure of the circulation is sometimes brought about *suddenly*, when death is said to occur by 'syncope,' or when the failure of circulation comes about *gradually*, when death is said to occur by 'asthenia.' (The word 'syncope' means a sudden suspension of the heart's action, accompanied by cessation of the functions of the organs of respiration. The same word is also employed occasionally to indicate the failure of the heart's action, in which a prolonged death-like fainting fit exists. The word 'asthenia' means loss of power or strength.)

- (1) The *sudden* failure of circulation, or syncope, may be brought about—

* I am indebted to the late Dr. Hayward, of Haydock, for this classification of the subject.

- (a) By diseases of the heart, either its valves being deranged in their action, or its muscular substances being in a condition of weakness or degeneration.
 - (b) By the sudden stoppage of the heart, through the action on it of nerve influences—as in sudden death from a violent blow on the head, or in sudden death from strong emotion.
 - (c) By the effects of acute hæmorrhage ; the blood-vessels being rapidly emptied, the heart stops because it is not filled sufficiently to enable it to contract—it has nothing to act upon.
 - (d) From 'shock' or 'collapse.' In this condition, such as may arise after blows on the abdomen, or severe injuries to other parts of the body, the veins of the abdomen become so dilated that they really are able to hold nearly all the blood in the body. The patient dies practically *bled into his own vessels*, for sufficient blood cannot reach the heart to enable it to fulfil its functions, and it comes to the same thing as if blood had escaped *outside* the body.
- (2) The *gradual* failure of circulation is what occurs in all exhausting and wasting diseases, and in death from cold or starvation. In these cases consciousness may be retained almost up to the last moment of life. The heart's action gets gradually weaker and weaker, and finally stops altogether.

The other mode of death—*failure of the respiration*—is spoken of as *death from asphyxia*.

Failure of respiration may be brought about in two ways—

- (1) Either by paralysis of that part of the central nervous system which is concerned in the carrying on of the mechanical movements of respiration—the respiratory centre ; or,
- (2) By such conditions as prevent the access of air to the lungs.

Paralysis of the respiratory centre may be due to, or be the result of—

- (a) Injury,

- (b) Disease, or
- (c) The action of poisonous substances, which may be either *taken in from without*, or *developed within* the body. For instance, morphine, a poison taken from without, causes death by paralyzing the respiratory centre. In kidney diseases, and in some fevers, poisonous substances are formed which have the same action on the respiratory centre.

The access of air to the lungs may be prevented by—

- (a) The blocking up of the air passages by a foreign body ;
- (b) The growth of false membrane in croup or diphtheria ;
- (c) Strangulation ;
- (d) Drowning ;
- (e) Suffocation from carbonic acid gas, or from the ‘choke-damp’ in coal mines.

In regard to asphyxia, such as occurs in drowning, it is important to remember that the heart goes on beating for some minutes after all attempts at breathing have ceased, through paralysis of the respiratory centre. In these cases it is often possible to restore life by performing artificial respiration (see pp. 162, 163).

Signs of death.

When a patient has finally ceased to breathe, and his heart has finally ceased to beat, *life is extinct*. This fact is usually apparent even to an ordinary looker-on, who has no special knowledge or experience. The ‘death-like pallor ;’ the indescribable, but very definite aspect ; the absolute stillness, ere long followed by the icy coldness of the body, then by the stiffening of the limbs, are all signs that death has occurred.

Rigor mortis.

Rigor mortis is the name given to that stiffening of the trunk and limbs which comes on after death through a kind of coagulation of the juices of the muscles. It varies very much in the time after death at which it comes on. It may occur almost immediately, or it may be deferred for many hours. The longer it is deferred in its onset, the longer it lasts, and the earlier it begins, the shorter time does it continue. When it appears (and it almost invariably occurs within twenty-four hours), it is a certain sign of death.

Sometimes there is a sudden expiration of air from the

lungs after all breathing has ceased, though this does not always occur. I mention this because it may have a startling effect upon those who hear it for the first time, and give them the erroneous impression that the patient was not previously dead.

‘Laying-out’ the dead.

When the Nurse perceives that ‘all is over,’ and that her poor patient has ‘entered into rest,’ the body must be laid flat, the pillows and most of the bedclothes removed, and the limbs straightened. It is best to remove any personal clothes immediately, before any stiffening sets in. It is not always possible to do this if the friends are near and reluctant to come away from the bed for a few minutes. All unnecessary delay must be avoided, but there must be no unseemly haste in such circumstances.

The jaw should be tied up with a bandage, with a slit made to take in the chin, in order to afford firm support in placing the mouth in as life-like a manner as possible. This bandage must not be removed until sufficient time has elapsed to ensure the jaw being firmly set.

Great care must be taken that the eyes are quite closed, otherwise the effect is ghastly and distressing. They will often remain closed if the Nurse places her fingers on the eyelids for a minute or two. If there is any further difficulty, a pad of wet lint pressed firmly across will generally prove successful. In the rare cases in which this is not sufficient, two-shilling pieces, or any other coins about that size, laid on the eyelids for a short time, will keep them closed.

It is customary to leave the body for a little while (usually about an hour) before washing it. During this process it must be kept as decently covered as though it were conscious.

There is often a great deal of discharge after death, and the orifices of the body should be closed with cotton-wool if the nature of the illness renders it necessary.

A clean night-shirt must be put on. It is more convenient to have this opened down the back. Nurses must be most careful not to use pins in any clothing, dressings or sheets. The porters, in moving the body, may easily get

pricked or scratched, and thus, in carrying out their duties in this connection, contract blood poisoning of a very serious nature.

If there are any wounds they must be bandaged up with cotton-wool or lint.

When all the necessary moving is over, the bandage must be taken away from the face, and the hair arranged smoothly. The Nurse's object must be to make the poor face look as much as possible as it did in life, for the sake of the mourners. In some hospitals the bandage is not removed from the head and face until after the body is taken from the wards, but it is better for the Nurse to do this (when permitted), as any subsequent oversight in a little detail of this sort may cause an unnecessary 'jar' to the feelings of the friends.

When the men come to fetch the body away from the ward, the Nurse should always stay behind the screen to see that it is removed quietly, properly, and reverently, whether it is necessary for her to render any assistance in the matter or not.

It takes two persons to perform the last duty which falls to a Nurse's share when the life of her patient is over. It is a sad and often a disagreeable task. The fact that a hospital Nurse may occasionally be present at one death, or two deaths, in a night or a day, must not let her grow careless of, or indifferent to, the human sadness of each occasion. Hospital Nurses especially must be careful not to let familiarity induce or excuse irreverence. There must be no loud, noisy talking, and the less talking that there is of any kind the better. I need not enlarge upon the impression made upon the other patients on such occasions by any unfeeling or frivolous remarks. Can they possibly entertain any respect for a Nurse if they hear her indulging at such a moment in idle conversation about her own or other people's affairs? or could any one fail to feel the 'jar,' which must be given to the feelings of all present, if giggling and laughing are heard from those who are engaged in so solemn a task? Such conduct *could* only arise from indifference, or from an utter failure to appreciate what is due to the occasion, so that every one has a right to resent behaviour of this sort.

A thoughtful Nurse will take care not to let the sad occurrence in an adjoining bed depress other patients more than is inevitable. If she maintains a bright and cheerful manner with them, she will be doing all that lies in her power to prevent a sorrowful event throwing a gloom over the whole ward, though its influence cannot be entirely ignored. Many patients are keen observers, and great judges of character. They will instinctively discern the difference between the Nurse who is touched by the sorrow with which she is brought in contact, though she has a smile for her other patients, and the one who has become hardened through familiarity with scenes that, in the case of a tender-hearted woman, only serve to enhance her sympathy with human grief and misery. It is the woman's nature rather than the work upon which she is engaged which is at fault, if the comparatively frequent repetition of these heart-rending scenes has a tendency to produce a deteriorating and hardening effect.

The self-denial called for in carrying out this duty, and the endeavour to overcome the very natural horror which touching the dead at first inspires, should bring its reward in a growing capacity for perceiving and for being 'touched' with the feeling of others' infirmities. There is nothing necessarily hardening in the process. Nurses would do well to reflect that in old days this work of paying reverent service to the dead fell much to the share of holy women, and there is nothing in it which should have a degrading effect, if it is undertaken in the loving spirit of charity which characterized their work.

A Nurse's sympathies should grow deeper with her fuller experience, and her capacity for serving others grow stronger as their needs increasingly call them forth. It is not only those about her, but the Nurse herself, whose nature will suffer irreparable injury, if she allows herself to attend upon a death-bed, or to be in the presence of the dead, either in the hospital or elsewhere, without recognizing the deep solemnity of the occasion.

It is only natural to shrink from sad scenes of this kind. Many Nurses dread them more as time goes on than they did in the earlier days of their experience, before they had

become 'acquainted with grief.' This is not because they have become hardened, but because they dread the renewal of the heart-ache which the sight of fresh misery cannot fail to bring forth. There are women who feel instinctively, whilst ministering to others in such times as these, that the place whereon they are standing is very literally 'holy ground.' Their mere presence brings strength and comfort to others, and thus in every sense they are enabled to feel that 'it is very good for them to be there.'

I only speak of the effect which scenes of this kind are likely to produce upon a Nurse's own nature, because, if she is sufficiently in earnest, there are times when she cannot fail to reflect upon this side of the question. But I well know that, in the midst of her practical duties, a true Nurse will have no inclination to think about herself.

Attention due to patient's friends. On these occasions (which, fortunately, are comparatively rare in each Nurse's individual experience), when death has won the victory after she has been fighting hard for her patient's life, a Nurse will feel that those whom the patient has loved, and who are left to mourn his loss, must be her first and immediate care.

However much the friends may have been 'prepared' for the end, the fact that death has actually occurred always brings a certain sense of 'shock' with it. A Nurse will often find that those who have borne up bravely for the sake of the patient, are utterly overwhelmed when he is no longer there to benefit by their self-restraint. The Nurse must do her utmost to measure their grief *by what it is to them*, and endeavour to let her sympathy take whatever practical shape the circumstances may indicate.

Sometimes the friends will like to be left alone with their dead for a few minutes. More often they have grown so familiar with the Nurse's presence that they prefer her to remain, and would not like her to leave the room. A Nurse must use her own judgment on this point. In any case, she must always be close at hand, and, as soon as possible, she should persuade the friends to leave her to do what is necessary. She must first straighten the room, and carefully

clear away the little things that the patient has been using, so that the sense of their being no longer needed will not cause fresh momentary pain to any of the friends when they come into the room again.

A Nurse must then immediately do what she can to persuade those members of the household who are most in need of rest to take food and to go to bed, and to try to get the temporary comfort of sleep. These sorrowful times have to be lived through, and before leaving the sad household a Nurse can sometimes do a great deal during the first twenty-four hours to make things easier, by showing the different members of it how to take care of each other. Those who are absorbed in a great grief are apt to be quite unmindful of ordinary everyday matters. As nothing can be done to lessen the sense of overwhelming sorrow, it does not seem to them worth while to pay attention to such details as warmth and food for themselves. They are probably unaware of what can be done in this respect—not to lessen the sorrow, but to strengthen them to bear it through those first dark hours from which there is no escape. It is a Nurse's business to understand this. Those who are too miserable to care for anything else at the moment will do what 'Nurse' tells them, just to please her, and because they are feeling grateful to her for the comfort she has been in their time of anxiety.

A Nurse must take the greatest care to be unobtrusive in the manner of showing her sympathy, and endeavour not to let it take too emotional a form of expression. She is there to comfort others in *their* sorrow—not to display her own. She may easily add to the burden of those who are suffering the most, if she gives way to tears instead of exercising that self-restraint which really unselfish sympathy will suggest.

Private Nurses have innumerable opportunities of proving a comfort to anxious and sorrowing friends, both before and after the sad event takes place. In hospitals, Nurses have more opportunity of comforting the friends beforehand—when the patient is on the 'dangerous list,' and the friends sit watching patiently, sometimes for a few hours only, sometimes for many nights and days. Soon after the

patient dies, the friends of hospital patients usually disappear, and the Nurse sees no more of them. This is the best arrangement for all concerned. A kind-hearted and observant Nurse can do a great deal to help these poor people when they are watching in patient misery beside their dying relatives. She can give them frequent opportunities of speaking to her, even when she is busy, for she need not linger long at a time. She can sometimes answer their *unspoken* questions—things that they dread to put into words—for it may be important and best for them to know the truth. She can share their responsibility, as it were, if they want to go away, and are yet longing to be there ‘just at the end.’ She can make a point of seeing that they have a comfortable seat, and that they do not go too long without food. She can make tired watchers comfortable by the fire, and encourage them to get some sleep, unless the patient is conscious, and wishing to have his friends beside him.

There are innumerable little womanly ways in which a true Nurse can help the patient’s friends as well as the patient. The nicer she is to the friends, the more readily they will listen to her if they are unintentionally worrying the patient by inopportune attentions. It is not uncommon to hear Nurses exclaim that the patient’s friends are infinitely more trouble than the patient himself, and sometimes, unfortunately, this is true. But the conduct of the patient’s friends has a considerable influence on the comfort of the patient. As it is the Nurse’s business to promote the patient’s welfare by every means in her power, she must secure and exercise legitimate influence with the patient’s friends. The best way to do this in individual instances must be left to the Nurse’s own tact and discretion. The two points she should keep in remembrance are, ‘*regard for the personal comfort of the friends,*’ and ‘*sympathy with them in their trouble.*’

Syphilis. A Nurse cannot be long in the wards of a large hospital without being occasionally brought in contact with a class of cases which cause her to reflect on some of the sad facts of life, of the very existence of which she may have been previously unaware.

Syphilis* is an infectious disease, due to the microbe 'Spirocheta pallida,' and is propagated by direct contact with a syphilitic patient. The microbe obtains a hold most readily in the delicate mucous membranes, but may also enter through minute wounds of the skin. It is very readily destroyed and therefore there is very little risk of infection, if the Nurse *knows* that the patient has syphilis and therefore washes her hands after contact. There is little risk of infection when dealing with a known case of syphilis; it is when syphilis is not suspected that Nurses and Doctors suffer most.

Syphilis is diagnosed by finding the Spirocheta pallida in the early lesions; after the 'primary stage.' It can only be recognized by examining the blood ('Wassermann reaction') as Typhoid is discovered by the 'Widal reaction' in the blood.

The treatment of syphilis was formerly carried out by Mercury, but Mercury is not only poisonous to the Spirocheta pallida, but also to the patient, and therefore sufficiently large doses cannot be given to effect a cure. At the present time the disease is treated with '606' (Salvarsan). This drug is one of the many wonderful discoveries of Professor Paul Eyrlich. For the first time it is possible to dose a patient with a substance which is enormously destructive to the microbe without injuring the patient. '606' is an arsenic compound, which is made in such a way that it is harmless to man, although a therapeutic dose contains sufficient arsenic to be immediately fatal. It is injected directly into the veins where the microbes are, and rapidly destroys them. Although one or two doses may not entirely cure the patient, nevertheless so many microbes are killed that for practical purposes the case is no longer dangerously infective within 12 *hours* of the injection.

In taking charge of such patients, it is the primary duty of the Nurse to guard against the risk of contagion to herself and others, by the careful disinfection of her hands, and the covering up of cuts and sores, by wearing rubber gloves

* The definition of syphilis and of the salvarsan treatment has been kindly written for me by Mr. P. Fildes, M.B., B.C. Cantab., to ensure its scientific accuracy.

when necessary, and by keeping all utensils used by such patients, for any purpose, distinctly marked, so that they are never used for any other patient without careful disinfection or sterilizing. It is essential that Nurses should be aware of this risk to themselves and others, in order that they may take the necessary precautions, as the results are most serious.

Public opinion has become much more enlightened in regard to syphilis and its treatment, and its prevalence amongst the many innocent persons suffering from this disease is more widely recognized. The ever-advancing discoveries of Science have proved that this disease is connected with other diseases where its existence was hitherto unsuspected. The increase of knowledge on this subject may prove of incalculable benefit to innumerable men, women and children, and now that a remedy has been found, fresh hope has been given, and there is every prospect that this fuller knowledge will check the tendency to concealment. Hitherto multitudes of men and women have had their suffering much increased by the too generally accepted belief that being a victim to this disease was something to be ashamed of. Now that Science has dispelled this ignorant view, Nurses will find that they can do more to help and encourage these patients.

I do not, of course, mean to imply that syphilis is a subject to be freely discussed on all occasions. Nurses must exercise due reticence and discretion, for old prejudices die hard, and Nurses may easily give offence without meaning to do so. But, on suitable occasions, when the opportunity offers for spreading knowledge which they have acquired during their training, they may help to dispel the unwholesome idea that those suffering from syphilis are in duty or honour bound to conceal it.

The fact remains that many unfortunate patients are to be found in the wards of a Hospital, whose condition is directly traceable to their own immorality. Whilst urging Nurses to guard themselves against the old erroneous belief that this is *necessarily* the case, they must not, of course, ignore the existence of the class of patients to which I refer.

It is a truly terrible experience for any man or woman to

be brought face to face with the direct physical consequences of their own sin, or to be suffering from the effect of the sins of others.

When patients of this class come to the hospital, they come to be nursed, not to be judged for it. Nothing can excuse a Nurse being hard in her way of speaking, or hard in her way of dealing with patients of this most unfortunate class. Nurses must always remember that—

‘Pity makes the world
Soft to the weak and noble for the strong,’

and every Nurse should bring her share of this divine quality to help those sufferers with whom her work brings her in daily contact. A Nurse must act in accordance with their needs—not in accordance with any ‘views’ concerning their actions.

There may be occasions in nursing her patients when a few words of wise and friendly warning would not be unsuitable from a Nurse who is doing her best to help her patient back to health and strength. But, if such opportunities occur, they are comparatively rare, and need to be dealt with very carefully.

In dealing with these cases a Nurse’s charity will often be taxed to its utmost; but surely in a Nurse this quality should be inexhaustible! The more pitiable the condition mentally, morally, and physically, the more thankful a Nurse must be to remember that, at any rate, it is no part of her duty to cast either the first or the last stone. George Eliot reminds us that—

“It is as possible to be rigid in principle yet tender in blame, as it is to suffer from the sight of things hung awry, and yet to be patient with the hanger, who sees amiss.”

Nurses will do well to keep this truth in their minds.

It does not require a large stock of virtue to inveigh against vice. There is no need to enlarge on the enormity of it to those who are brought face to face with one of its most awful consequences. It is one of a Nurse’s privileges ‘to comfort and help the weak-hearted,’ and to do all in her power ‘to raise up them that fall.’ There must be no

question, where the sick and suffering are concerned, of any human being, or of any class being regarded as an outcast—

‘Seeing that knowledge grows, *and life is one*,
And mercy cometh to the merciful.’

But whatever views different individuals may hold on this painful subject, in dealing with these most unattractive cases *as patients*, it is a beautiful thing for Nurses to remember that—

‘Human forgiveness touches heaven, and thence
Reflected, sends a light on the forgiven.’

CHAPTER XVIII

Operations. A NURSE'S duties in connection with operations are fourfold—

- (1) The preparation of the patient.
- (2) The preparation of the theatre or the room in which the operation is to be done.
- (3) The duties of the Nurse during the operation.
- (4) The after care of the patient.

In addition to the routine duties which are applicable to all operations, there are a few details to be studied and remembered for the special Nursing of certain cases.

Preparation of patient. When the patient is allowed to have a bath the night before the operation, it is a very desirable thing for him. If this is not permissible, the Nurse must always see that he is carefully washed. The surface of the part about to be operated upon must receive special attention. No soap or water must be used for the part to be painted with iodine for twelve hours before the operation. It should first be shaved if necessary, dry shaved if it is an emergency case, and then painted with iodine, 2 per cent. in spirit. Some Surgeons prefer the iodine to be applied with dry sterilized swabs instead of a brush. The part must be lightly covered, as soon as dry, with a piece of dry lint, or a cotton towel, to prevent soiling the personal linen or bedclothes. The painting with iodine, 2 per cent. in spirit, must be repeated immediately before the operation, when the patient has been placed on the operating table.

In some cases a small aperient is given the night before the operation, and this is followed by an enema in the morning. It is especially important that the enema should act effectually in operations near the rectum, bladder, or

vagina. In every instance the Nurse must give her patients the opportunity of making themselves quite comfortable the last thing before they are taken to the theatre.

Food before operation. It is customary to give the patient a good meal about five hours before the operation, and about half a pint of beef-tea may be given nearer the time, but no solid food. The hospital routine is that if an operation is to take place in the afternoon, the patient has a good breakfast, and half a pint of beef-tea later on. If the operation is unexpectedly delayed, another half-pint of beef-tea may be given nearer the time.

Every Nurse must understand the importance of keeping the patient without solid food for at least five hours before the administration of an anæsthetic. Some House Surgeons give minute directions on this point, and then a Nurse's responsibility is limited to carrying them out. But most Doctors take it for granted that a Trained Nurse is aware of this invariable rule, and will expect her to adapt it to the circumstances without any further reminder.

If by any accident the patient has taken solid food at a later hour than the Surgeon is aware of, a Nurse must never fail from any reason whatever to report the fact. If she has carelessly forgotten the order that the patient was to be kept without food, she must not let any fear of blame deter her from reporting it at once. If the patient has succeeded in getting food in any other way, it is equally important to report it, and to let the responsibility of having the anæsthetic administered in these conditions rest entirely with the Surgeon.

Anæsthetics produce sickness, and the chief reason that solid food must not be given shortly before the administration of an anæsthetic lies in the risk of any vomited matter being drawn back into the trachea when the patient is unconscious.

If a wound exists, all dressings must be removed, and the wound must be cleaned up in the manner in which it has been customary to dress it. There is no necessity to do anything further before the operation. The place must be covered with a fresh piece of gauze before the patient is

taken to the theatre. The Surgeon generally washes the wound well under the anæsthetic, when the patient does not feel the pain of any special preparation.

If the arm or breast is the part affected, the arm of the nightdress must not be put on the side where the operation is to be.

Patients must always have on their stockings, unless it is the foot or leg which has to be operated upon. Three sterilized towels are folded round the patient when it can be done *without the slightest risk of their proving inconvenient in the theatre*, instead of the flannel or woven drawers which were formerly worn. This is desirable to keep the patient warm, as well as to avoid all unnecessary exposure.

The patient's throat and neck must be kept quite free, the garment worn being unbuttoned or untied, as the case may be.

It will mostly rest with the Sister or Nurse to place the mackintoshes when the patient is on the operating-table. Great care must be taken that this is done effectually, that the patient's clothing may not be unnecessarily soiled.

Patients must always be carefully wrapped up whilst being conveyed to and from the theatre. They are especially likely to take cold whilst under the influence of an anæsthetic.

The parts that the Surgeon is not immediately concerned with must be kept well covered up in the theatre, that the vital powers may not be unnecessarily lowered by cold. The tendency of anæsthetics is to reduce the temperature of the body.

Patients who use pins or hair-pins habitually must not be allowed to do so on this occasion. A patient frequently struggles violently in taking an anæsthetic, and pins or hair-pins may easily hurt her or her attendants.

A Nurse must also be careful to ascertain if the patient has any false teeth, and she must see that they are removed prior to the operation.

Sympathy This is all that can be technically demanded
with of a Nurse by way of preparing her patients
patients for an operation. But it is by no means all
awaiting that a patient has a right to look for if he is
operations. in the hands of a *real* Nurse. No Nurse

worthy of the name will feel that she has done her whole duty without bestowing a little encouraging sympathy to help each of her patients through the ordeal awaiting them.

It is a temptation to Hospital Nurses, amidst the numerous cases which constantly fill the wards, to forget that what is to them in hospital phraseology 'another abdominal section,' 'an excision of knee,' 'an amputation,' and so on, is naturally regarded very differently by the unfortunate patient who has to meet the trial in his own person. There is no harm in thinking and speaking of cases in this general sort of way as a part of the day's work; but there is very great harm, if in so doing, a Nurse loses her care for, and interest in, the individual patient. If a Nurse allows herself to become indifferent to the patient's point of view, it will soon have a lamentable effect upon herself, as well as upon the patients who have the misfortune to be entrusted to her care.

A sympathetic Nurse will instinctively try to imagine what she would like said to herself if she were 'patient' instead of 'Nurse' on the occasion. She must not say what she does not believe to be true, but she must take the trouble to say every encouraging thing that *is* true, and which can help the sufferer to look forward hopefully to the result. If a Nurse has known apparently similar cases 'get through well,' she can cheerfully mention the fact.

A Nurse must never confide her doubts and fears to a patient; that is not kind, nor necessary. These fears may, or may not, be well founded, but no good can be done by depressing the sufferer. On the other hand, it would not be right for a Nurse to deliberately raise false hopes. There is not much time to waste in talking, nor is this desirable. But, however busy a Nurse may be in making her responsible preparations for the operation, the few minutes that she must bestow on the personal preparation of her patient will give the opportunity for the encouraging words that will mean so much to him, if only they are spoken at the right time.

For the most part patients are very brave. But every one, almost without exception, will be secretly craving for this understanding sympathy and encouragement, though

they may give no evidence of either needing or appreciating it. Every Nurse should assure the patient with the utmost confidence that he will feel *no pain whatever* when under the anæsthetic.

It is by no means desirable for a Nurse to chatter to her patients a great deal at such a time, or talk to them too much about their trouble. But it is at times like these that a true Nurse must unobtrusively endeavour to—

‘ Be to other souls
The cup of strength in their great agony,—
Be the sweet presence of a good diffused,
And in diffusion ever more intense.’

It is not only the Nurse who has to be present at the operation who has the opportunity of cheering her patient by tactfully letting him understand that she is aware of what the trial means to him. In a hospital, at any rate, part of the preparation devolves upon the Night Nurse, and while all concerned must scrupulously avoid bringing any element of ‘sensation’ or ‘excitement’ into the matter, any encouraging remark that can be combined with the necessary attentions, may prove more comforting to the patient at this particular time than the Nurses themselves can fully realize. For instance, a brief word when the Night Nurse leaves her patient in the morning, to the effect that she is glad to think his trouble will be over when she comes on duty again that night, will not only show her patient that she is sparing a kindly thought for what lies before him, but will indirectly inspire him with the conviction that she has confidence in the result of the operation. This in itself may enable him to gather up a little more courage on his own account.

It must not be forgotten that slight operations, which are regarded by Doctors and Nurses in the light of their fuller experience as very trivial affairs, seldom *feel* trifling at the time, either to the men or to the women who are obliged to undergo them. Patients who give the least evidence that sympathy in any form is needed or desired, are often those who need and value it the most. A Nurse who is really in touch with her patients will instinctively understand that

this is the case, and will, therefore, avail herself of every opportunity to give her heartfelt sympathy tactful and kindly expression.

**Prepara-
tion of
Nurses'
hands.**

Before handling the instruments and dressings about to be used for the operation, a Nurse must be scrupulously careful about cleansing and disinfecting her hands. She must renew this preparation the last thing before attending the Surgeon at the operation, and repeat the process again and again if circumstances have compelled her to touch things to render her hands less aseptic than strict care can make them.

A Nurse must have her arms bare to the elbows, and wash her hands and arms thoroughly well with soap and hot water. She must use a sterilized nail-brush. She must not dry her hands after 'scrubbing up' but she must soak them for several minutes in a solution of biniodid 1-500 or some other approved disinfectant. This plan is not quite as extravagant as it may appear, for if the hands have been thoroughly cleansed before soaking in this solution, it need not be thrown away, but can be kept for repeated use during the operation, unless it gets soiled.

**Tempera-
ture of
theatre or
operating-
room.**

The theatre, or the room where the operation is performed, should be kept fresh, though not cold. From 65° to 70° Fahr. is the range of temperature usually preferred. It must never be below this, and some Surgeons prefer a higher temperature. Unless a Nurse receives special orders on this point, in accordance with the individual views of the Surgeon for whom she is working, she must try to have the temperature of the theatre at 65° Fahr. She must endeavour in any case not to let it exceed 70° Fahr., as the atmosphere becomes most oppressive during an operation.

**Instru-
ments.**

All instruments must be carefully sterilized in accordance with the directions previously given (see p. 131). The care and preparation of instruments does not, as a rule, come within a Nurse's province in a large Hospital, but Nurses should make the most of every opportunity for learning all they can about

them, and for noticing what instruments are required by different Surgeons for the various operations performed. There are circumstances in which a Surgeon may find himself wholly dependent upon a Nurse for assistance in this direction.

Unless the anæsthetic is administered in a separate room (as it always should be when possible), the instruments must be covered with a sterilized towel, that the patient may be spared the sight of them.

When the threading of the needles is the Nurse's responsibility, she must remember to have a good supply ready threaded with whatever sutures the Surgeon intends to use.

Some Surgeons regard sponges as altogether obsolete, but, if they are used, a Nurse must be extremely careful that no sponge is in the room except the new ones that have been carefully prepared for use. In cases of abdominal section, or of vaginal hysterectomy, it is most important that the sponges be accurately counted. If the Surgeon is in any doubt as to whether all the sponges have been removed from the wound, it will be a satisfaction to him to have this fact ascertained beyond all possibility of doubt, by having the sponges counted. About twenty sponges are sufficient. There should be two very large, flat sponges for pressing the abdomen, six or eight small ones on sponge-holders, and the remainder should be of the size usually employed in the theatre.

In the sterilized dressing tins the Nurse must have ready the dressings prepared for the particular case, in addition to which she must have at hand a supply of cotton-wool, lint, strapping ready cut, bandages, safety pins, a hypodermic and a brandy syringe, a catheter and funnel with some india-rubber tubing, and plenty of sterilized towels.

A Nurse must be provided with plenty of sterilized hot and cold water. In a hospital theatre or an operating-room, this is usually at hand without any trouble to the Nurse, but if not, it is her responsibility to get it ready.

Ice, brandy, morphine, atropine and strychnine should always be at hand, in case either may be needed in an emergency.

Plenty of empty receivers for the reception of pus, dead

bone, etc., should always be ready. A Nurse must never throw away anything of this kind until she has received orders to do so.

A towel, receiver, and sponge are needed for the vomiting which the anæsthetic nearly always causes. The patient's head must be turned on one side to allow the vomited matter to escape.

The Nurse must always have ready a basin of warm sterilized water, to which some disinfectant has been added, and clean dry swabs, as they may be asked for at any moment, and they are required finally to wipe away the traces of blood before the dressings are applied.

Nurses must bear in mind that they are not there to *see* the operation, but to make their presence realized by the perfectly quiet way in which all wants are foreseen and supplied. There must be no talking that can be dispensed with, even on business. A Nurse must try to catch every hint or suggestion quickly, and must take care that she *never* gets in the light. This is the time of all others for a Nurse to exercise quiet self-control and intelligent observation.

These directions apply to all operations generally, but, I should add, that for amputations, or in cases where there is a probability of much bleeding, a tray filled with sawdust must be placed under the operating-table ready for use.

Preparation of patient's bed. The Nurse or Probationer in the ward must have the patient's bed prepared for his return. A cradle must be at hand in case it should be needed. Hot bottles and warm extra blankets must be ready for immediate use, as the chances are they may be required. A Nurse must watch for a tendency to vomit, and, also, for any symptoms of collapse, or any cessation of breathing after chloroform or ether. It is better for the patient to 'come to' gradually if possible; but the Nurse must see that the patient is watched over until consciousness returns.

When the patient has thoroughly recovered from the effects of an anæsthetic, the Nurse must not forget that he has been many hours without food, and she must take care that he has suitable nourishment supplied as soon as it is allowed.

When the operation has to be performed in a private house, two rooms are necessary—one for the operation, and one for the Surgeon and his helpers to use for their hats and coats, washing hands, etc., as it is desirable to keep the room in which the operation is performed entirely free from things of this kind. There should be an attendant at hand in this second room, to empty the hand-basins as soon as they have been used, and to keep up a constant supply of hot and cold water ready for the Surgeon's use.

The Nurse some hours previously will have placed three new nail-brushes to soak in a solution of 1-500 perchloride of mercury, to ensure their being thoroughly saturated with the disinfectant. In addition to this, three basins, three pieces of soap, and half a dozen towels will be required.

The operation-room itself must be free from all unnecessary furniture. If there is time to allow the dust to settle, the carpet should be taken up, but, if not, it is safer to leave the carpet where it is. If there is sufficient time, it is best to take down the curtains and pictures, to have the walls swept, to clean the windows, and to wash the floor with soap and water. But, if the operation has been hurriedly decided upon, there is less risk in disturbing dusty surroundings as little as possible.

There should be a fire in the room and a kettle, to ensure boiling water being at hand.

Just before bringing in the patient all windows should be closed. They should not be opened again until the patient has been carried back into his own room. The temperature of the room to which the patient returns should be 65° Fahr. All draughts and cold air must be scrupulously guarded against for some hours.

Operating table.

If it is at all possible, the best plan is to hire an operating-table, which can be done, at very small cost, from most surgical instrument makers. If there is no time for this, the ordinary kitchen-table, made scrupulously clean by scrubbing with soap and water and some strong disinfectant, is probably the best substitute that the household furniture can provide. The table must be wide enough and long enough to support the

patient's body. The height should be about thirty-three inches. It is an extreme inconvenience to the operator to have the table too low. There must be one clean blanket folded on the operating-table, and a pillow for the patient's head. Two more pillows should be at hand if a proper operating table is not being used, as the Surgeon may need them to support the patient's body in any position he desires.

In addition to the table on which the operation is performed, there should be three small ordinary tables, which must also be made scrupulously clean. One of these will be required for the instruments, one for the sterilizer and dressings, one for sterilized towels, porringers, etc.

The Nurse must provide the ordinary nursing requisites that she would take to the hospital theatre, and the preparation of the patient is carried out exactly in the same way as it would be in a hospital.

The Nurse must get ready a large white meat-dish for the instruments, a basin for sutures and needles, a tumbler for forceps, and a dinner-plate for the swabs now used instead of sponges. These things should be placed on the table reserved for the instruments.

A foot-bath should be placed under the table to act as a receiver.

There must be a basin containing some warm water and disinfectant ready for the Surgeon's hands, and an empty basin ready for any vomited matter.

Unless the Nurse has previous instructions as to what lotions the Surgeon prefers, she should have ready for an extensive operation such as an abdominal section, three jugs for carbolic lotion 1-20 (labelled), three jugs for boiling water, and three for cold *boiled* water. There must be one gallon of carbolic lotion 1-20; half a pint of 1-500 perchloride of mercury or biniodide, $\frac{3i}{4}$ to Oi , iodine 2 per cent. in spirit for painting the part where the operation is about to take place, and half a pint of ether, as some of this may be required for cleansing the part on which the Surgeon is about to operate. For smaller operations the same things should be prepared in lesser quantities adapted to the occasion.

A Nurse must be absolutely certain that she knows the contents of every vessel she has in the room, and exactly where to put her hand upon it. It is most annoying for a Surgeon to perceive by a Nurse's manner that she is not *sure* of the exact strength of any solution he asks for, or for any delay or confusion to arise when he requests a certain thing to be handed to him. The 1-20 solution of carbolic acid is the strongest solution that can be made in the form of a lotion; and when the Surgeon wishes to use 1-40 or 1-60, as the case may be, this can easily be supplied by the addition of a sufficient quantity of hot or cold water to the 1-20 solution, which the Nurse will have carefully prepared.

A Nurse should procure Calvert's No. 1 carbolic, or phenol, for the lotion. She must ask the chemist to supply her with the correct amount to make the quantity wanted of the right strength. These lotions must always be made with boiling water.

A dozen sterilized towels should be at hand for the operation. Hot blankets and tins should be readily available if they are required.

Hæmorrhage after operations. After all operations hæmorrhage must be carefully watched for. There is always a possibility of it. A towel or a piece of lint must be placed under the wound in addition to a mackintosh and draw-sheet, so that if a Nurse is in doubt as to whether any stain is fresh or not, she can draw this on a little, leaving the wound to rest on a clean place. She can then soon see whether the stain is renewed. Only experience can teach a Nurse what is meant by 'a little oozing,' and the beginning of more serious bleeding.

If hæmorrhage occurs, and the Surgeon has to be called, a Nurse must not hurry away with the soiled sheets. The Surgeon may prefer to judge for himself how much blood the patient has lost. If a Nurse is asked as to the quantity of blood, she must not use exaggerated expressions and say 'streams of blood,' etc. She must try to be accurate, and to give the supposed quantity as nearly as she can. A little blood makes a great show on linen.

Patients, even if conscious in other respects, may be quite unaware that bleeding is going on.

If sudden hæmorrhage occurs, a Nurse should have cold water, ice, hot water, sponges, and towels ready, in addition to her usual dressing basket of lint, etc. If possible, she must try to have a fresh dressing ready to replace the one which will probably have to be removed. An efficient Nurse will not wait until the Surgeon appears before getting these things ready. Life may literally depend upon prompt treatment, and all delay in such cases is most serious.

Hæmorrhage from a stump. If hæmorrhage occurs from a stump, the Nurse must raise it whilst waiting for the Surgeon. She must have an empty receiver ready for the clots of blood that he will probably have to remove when seeking for the source of the hæmorrhage.

A Nurse must be exceedingly prompt without getting flurried, and she must take care not to frighten the patient. The less the patient sees of what is going on the better. The Nurse must remember that he will keenly watch her manner and the expression of her face, to try to ascertain if there is much cause for alarm in a matter which is of such vital importance to him.

After excessive hæmorrhage, if the patient is extremely exhausted from the loss of blood, the Surgeon occasionally deems it advisable to introduce saline solution into a vein. This operation is termed 'infusion.' At the London Hospitals we chiefly use for this purpose an admirable appliance known as 'Souttar's Thermos Saline Infusion Apparatus.' Clear directions for use are supplied with it.

CHAPTER XIX

Amputation cases.

IN amputation cases a Nurse must steady the stump carefully with a piece of bandage over the pillows, to prevent 'starting' (an involuntary movement of the limb). A cradle is needed to keep off the weight of the bedclothes. These must be so placed that the Nurse can see the limb and watch for bleeding without disturbing the patient. It is a curious fact that patients constantly complain of pain in those parts that have been amputated, and, unreasonable as it sounds, the pain complained of is very real. A Nurse must keep the patient warm and comfortable. Sometimes it is desirable to have a warm bottle put near the sound limb when an ice-bag is ordered for the other. But in these days ice bags are very seldom employed. A cradle is not conducive to the comfort of the patient, except as far as the part operated on is concerned. A small blanket under the cradle should be wrapped over any other parts that are likely to suffer from cold.

Excision of breast.

IN cases of excision of breast, the arm of the side affected used to be carefully bound across the chest, and the patient was not allowed to use it on any pretext whatever. Now the majority of Surgeons leave the arm free. Some let it rest on a pillow, which is the most comfortable arrangement for the patient if the Surgeon permits. Other Surgeons only allow movement below the elbow. But the general tendency of the treatment at present is to permit free movement as soon as may be. The Nurse must not forget that considerable hæmorrhage may take place, without being apparent, under the large dressings frequently employed for breast cases. She must, therefore, watch the more carefully on account of this difficulty. She must not fail to notice any

change in the pulse, or any increasing pallor of the patient, which may indicate that bleeding is going on. This applies to all cases after operations.

Excision of tongue. Cases of excision of tongue need very careful watching, and constant attention. The Nurse must endeavour to anticipate her patient's wants in every way, so as not to give him the exertion and excitement of trying in vain to make himself understood. These patients are generally irritable—which, indeed, is not to be wondered at in their distressing condition—though there are some pleasant exceptions to the rule.

The patient must be kept quiet, and not allowed to talk. A slate and pencil must be close at hand, to enable him to write anything that it is no longer possible for him to say.

The patient may be raised into any position in bed that he finds best adapted to his comfort as soon as he has recovered from the effect of the anæsthetic. Now and again a Surgeon prefers 'a tongue case' to lie flat, with his head turned on one side for the first twelve hours, but most Surgeons prefer the patient to sit up with a bed rest, and this position is more conducive to the patient's comfort. He must be scrupulously guarded from draughts, as there is always a risk of pneumonia in these cases.

After the first twenty-four hours—during which he must be disturbed as little as possible—or as soon as it becomes necessary, the mouth must be rinsed out very gently with a weak solution of whatever disinfectant is ordered. Some Surgeons prefer 1-80 carbolic lotion as a mouth-wash, others order Hydrogen Peroxide 1-20 or a solution of bicarbonate of soda $\bar{5}$ i to $\bar{5}$ v. The mouth-wash must be tepid, and must never be given warm. If the patient is able to rinse out his mouth himself, that is the arrangement which he will prefer; and there is no reason why he should not be allowed to do it himself, under the Nurse's careful supervision. If the Nurse has to do this for the patient, a sterilized glass syringe, or an irrigator (see p. 127), to which a piece of indiarubber tubing has been attached, is the best appliance for the purpose. This cleansing must be done with extreme gentleness, great care being taken that the fluid is not jerked into the mouth, but sent in with an even, steady

flow. The teeth must be gently cleansed with glycerine and borax, or any other mouth wash in the usual manner, as described on p. 46. It is very necessary to pay attention to this point, as otherwise the discharge from the wound makes the breath and teeth extremely offensive. It is very important that the mouth should be kept in as clean a condition as possible. But, on the other hand, a Nurse must be careful not to worry and disturb the patient, more than is necessary. The frequency with which the mouth is cleansed must depend in a great measure on the amount of discharge, but it must always be repeated before and after any food is given by mouth.

If much of the tongue has been removed, the patient will be unable to swallow, and in that case nutrient enemata or nasal feeding will be ordered.

If the patient is able to swallow, most Surgeons allow liquid nourishment to be given. A mixture of milk, brandy, and eggs is usually preferred to beef-tea, on the ground that they contain more nourishment. All food must be given cold.

The Nursing of a case of cleft palate requires very great care in administering nourishment, and in keeping the patient from speaking and crying, or the wound will speedily break down and the operation prove useless. Some Surgeons prefer that the milk, beef-tea, or any other liquid diet which may be given to the patient, should be carefully strained through muslin. But unless special orders are given, a Nurse need not make a practice of doing this if she carefully observes that there are no solid particles in the food she is administering.

Before the operation for cleft palate, the child must become accustomed to being fed with a teaspoon. For three days before the operation the child's mouth should be irrigated twice daily with boracic lotion. The feeds must always be given very slowly. Feeds of milk and lime water may be given up to two hours before the operation in the case of an infant up to nine months old. After that age a feed should be given four hours before the operation. Directly the operation is over, before the child is round from the anæsthetic if possible, an injection of saline should be

given of from $\bar{3}$ iii to $\bar{3}$ vi. As soon as the child regains consciousness it may have a small feed. This must be preceded and followed by $\bar{3}$ i of tepid water.

The Surgeon usually orders a small injection of morphine, but a Nurse must remember how very susceptible children are even to small doses of this drug, and it must be measured with great care.

The morning after the operation the baby should have a small dose of castor oil $\bar{3}$ i and the mouth must be irrigated carefully, first with a solution of weak Hydrogen Peroxide, then with Boracic lotion.

The baby must be held with its head slightly downwards and turned on one side to enable the fluid to flow out. This must be repeated four times in the twenty-four hours, oftener if necessary.

The stitches are usually removed, under an anæsthetic, about the tenth day.

It is necessary to watch attentively that no bleeding is going on, as, in these cases, the patient may swallow the blood to a considerable extent, and there is the risk of choking. For the operation, tiny pieces of sponge, fastened on little holders for the purpose, will be required.

In the treatment of hare lip the water given before and after feeds is often enough to keep the mouth clean, without the use of any disinfectant. As a rule no dressing is applied, although some Surgeons continue to use Whitehead's Varnish. It may be the duty of the Nurse to provide hare-lip pins, but these are no longer used as a matter of routine. The strapping sometimes employed for these cases has to be specially cut for the purpose, but in these days this is seldom used (see p. 80). The hare lip is not touched for the first twelve hours after operation. Then a little sterile olive oil is gently dropped on the wound when the child is asleep. This is repeated until the scabs are all soft and ready to come away. The lip is then carefully cleaned up with Hydrogen Peroxide. The stitches are removed from the eighth to the tenth day.

Hæmor- rhoids.

When there is to be an operation for hæmorrhoids or piles, as they are sometimes called, the chief point that a Nurse has to

remember, prior to the operation, is to have the bowels thoroughly unloaded by aperients and enemata. An aperient is not repeated for twenty-four hours before the operation. But an enema is given the previous night, and on the morning when the operation is to take place. If there is any doubt as to whether the rectum has been thoroughly cleared, occasionally a rectal wash is given with catheter and funnel about three hours before the operation takes place. This is done to keep the part free to heal without interruption, and to spare the patient the acute pain of an action of the bowels while the wound is still fresh. Bleeding must be carefully watched for after the operation, as, if it occurs, plugging may be necessary. If there is any acute inflammatory condition at the time when the operation is recommended, the patient must be kept at rest in bed for a few days before the operation is done. Sometimes patients suffer a great deal of pain and discomfort for the first two or three days after the operation, but this is not always the case. Some Surgeons insert a tube to relieve flatus for the first forty-eight hours after operation. This treatment apparently affords great relief. The Nurse has to see that this tube is carefully kept in place, and the end must rest on a pad in case any fæcal matter should escape into the bed. Ligatures are not used so frequently as formerly, but, when they are, the Nurse must watch the stools carefully to see when they come away, in order to be able to give the Surgeon definite information on this point. Some Surgeons allow morphine suppositories or cocaine to be applied locally. The application of cocaine when the bowels are about to act affords great relief. It is better, for the first two or three occasions at any rate, to place half a yard of mackintosh with about a quarter of a pound of cotton-wool under the patient to receive the fæces, instead of the bed-pan. If economy is a great object, tow might be used instead of cotton-wool, with a layer of cotton-wool over it to come next to the patient. The position of being raised on the bed-pan is apt to add unnecessarily to the patient's distress. Although these cases are not usually deemed very serious in themselves, patients have frequently borne considerable pain and discomfort before resorting to

operation. Nurses can do much to diminish the suffering of these cases by paying great care and attention to every little detail.

Occasionally, after the operation for hæmorrhoids, patients suffer temporarily from retention of urine. This is a symptom which a Nurse must not fail to notice, and to report to the Doctor, though it can be immediately relieved by passing the catheter.

Ovari- In cases of ovariectomy and other abdominal
otomy and sections, the patient's skin is prepared the
other morning of the operation by painting the
abdominal abdomen with iodine 2 per cent. in spirit.
sections. Some Surgeons do not wish any preparation of the patient's skin to be made, beyond thorough washing with soap and water, until the patient is under the anæsthetic in the theatre. But if the skin is to be prepared with iodine it must not be washed with soap and water for at least twelve hours before the operation. Formerly it was the custom to employ a small mackintosh, in which an oval aperture had been made the size of the proposed incision. But this has been superseded by a sterilized towel in which the same oval aperture has been made. The bed is made up in the usual way except when the patient is so collapsed that it is necessary for her to have infusion. When this is ordered the bed is made in the manner already described on p. 43.

The patient has to be kept lying on her back from the time of the operation till the following day. A firm pillow must be placed under the knees to relieve all strain on the abdominal muscles.

A pillow must be at hand for the Nurse to place in the small of the patient's back if she complains of pain there, as is very generally the case. It is a relief to the patient to have this pillow taken out occasionally and replaced when desired, or put in a different position to afford temporary relief. It is worth taking a great deal of trouble to attain this object, for many patients find the necessity of remaining in a recumbent position so long extremely wearisome and painful.

The patient is generally allowed to be turned by the

Nurse on to her side the day following the operation. When this is done, it is a good plan to take the knee pillow and prop it into the patient's back, so that it makes a support to lie against. It is also advisable to have a small soft pillow to tuck under the abdomen, as this will relieve the strain on the abdominal muscles.

It is customary to give the patient small drinks of hot water, not exceeding $\bar{3}$ ii at a time, after the operation. After this, hot tea, milk, and beef-tea, in small quantities, are usually given, unless a Nurse receives orders to the contrary. The amount is gradually increased until twenty-four hours after the operation, the patient is allowed full feeds (*i.e.* $\bar{3}$ v at a time), provided, of course, that there is no vomiting.

The Surgeon usually wishes the patient's bowels to be opened on the second day, after which he generally prefers the patient to be getting on gradually with solid food, such as eggs, toast, bread and butter, custard, and light puddings, gradually going on to fish and other suitable invalid diet according to the condition of the patient.

Saline injections. If the patient suffers severely from thirst, saline injections are sometimes given in the proportion of one drachm of salt to one pint of water. The quantity given, and the frequency with which these are administered, depend entirely upon the patient's condition.

Flatulence is one of the greatest troubles from which a patient suffers after an abdominal section, and the pain is often acute. A turpentine enema is frequently ordered to relieve this, the day following the operation (see p. 139), or the small rectal tube is most useful in affording relief. It must be well oiled, and passed as far up the rectum as possible, and left in for about half an hour (see p. 142). When a rectal tube is not at hand, a large-sized catheter can be oiled and used for the same purpose. A Nurse must carefully notice whether any flatus (*i.e.* wind) passes, as its absence is a very grave symptom in cases of peritonitis following after an abdominal operation. Cajeput oil or terebene oil on sugar (mij to mv) is often ordered to relieve flatulency.

Sometimes a mustard leaf or a blister placed over the stomach from ten to twenty minutes is efficacious in arresting vomiting, but a Nurse would not apply this remedy without orders.

On the comparatively rare occasions when the patient is fed by nutrient enemata, a rectal wash of warm water must be given gently night and morning (see p. 142).

The temperature, pulse, and respiration must be taken every four hours as a matter of routine, and much oftener if necessary.

If a tube or gauze drain is left in the wound this must be noted on the temperature chart, and another record made when it is removed. It must also be noted on the temperature chart when the stitches are taken out.

The patient's mouth, tongue, and teeth must be kept clean and fresh with glycerine and lemon-juice, applied with small pads of linen or lint wrapped round the end of a pair of forceps (see p. 46).

At one time it was customary to pass the catheter at regular intervals, as a matter of routine, but now it is only usual to do this when it becomes necessary.

Abdominal binders. Rather narrow twill sheeting binders are sometimes used for abdominal cases, *i.e.* about seven and a half inches in depth, the length, of course, being adapted to the size of the patient. The ordinary abdominal binder is from ten to fourteen inches in depth. It is shaped to fit the abdomen. Care must be taken that the edges are very flat and smooth. Hard seams will cause great discomfort and restlessness. Twill is a firm material which can be boiled or dry sterilized as required.

Stirrups. Stirrups are useful to keep the binder from slipping. These are made of pieces of soft bandage, and are fastened at the lower part of the back of the binder, and brought round under each thigh, and fastened with safety pins on to the binder in front.

If there is any marked tendency to bed-sores—especially if moisture has to be guarded against—simple dressing or zinc ointment can be gently rubbed on the patient's back. In any case it is a good plan for the patient's back to be rubbed with eau de Cologne or some other spirit. This

can be done effectually without lifting the patient. This adds much to the comfort of the patient. If the patient vomits, sneezes, or coughs, the Nurse must place both hands gently over the region of the incision to give firm support, and she must keep up a steady pressure until the patient is quiet again. The most careful observation and accurate written reports are expected from the Nurse. She cannot be too exact about every detail.

The atmosphere surrounding the patient must be kept as fresh and as free from every bad smell as can be managed, for the welfare of these critical cases greatly depends upon their surroundings.

All abdominal operations are nursed in the manner just described, with any variations on minor matters that the Surgeon in charge of the case may desire.

Hernia. After an operation for hernia, the affected part must be carefully supported by the Nurse's hand during all convulsive movements. No solid food must be given until the second day after the operation, but, as the feeding is important, a Nurse must be careful to induce the patient to take the nourishment ordered night and day. The Doctor will wish to see any vomited matter as well as the stools.

For cases of supra-pubic cystotomy, the bed should be made in the same way as for ordinary operations. The Nurse's chief anxiety in these cases is the prevention of bed-sores, and the difficult task of keeping the bed as dry, clean, and as free from smell as possible. It is also important to remember that nothing cold must come near the patient, and that sheets and blankets, however frequently changed, must always be warm. In all bladder and kidney cases the blanket and not the sheet must be placed next the patient.

The best arrangement for keeping the bed and bedding dry—as at first the urine will flow through the wound—is known as 'Irvine's Dressing'; it is called after the Inventor. This apparatus consists of an oval celluloid box with a lid. This fits over the wound and has attached to it two rubber tubes which drain into a receptacle placed on

either side of the bed, or sometimes attached to the bedstead. It is fastened on the patient with a white elastic band fixed on to hooks on the box. This arrangement enables the Nurse to measure all the urine. If 'Irvine's Dressing' is not available, gauze and wood-wool pads have to be placed near the wound to absorb the urine. These must be frequently changed, and obviously this arrangement is not nearly so satisfactory as the proper apparatus. When these are employed, the Nurse has simply to judge as nearly as possible how much urine they have absorbed, or to let the Surgeon know how many wood-wool pads have been saturated with it. The soiled pads are then burnt, and replaced with fresh ones. The Surgeon will expect the Nurse to be able to tell him when the urine begins to flow through the natural orifice, and also when it ceases to flow through the wound. Any appearance of blood in the urine must be at once reported to the Surgeon.

The Nurse must be especially careful that the patient does not take cold from the washings near the wound, which will be needed to keep the skin from getting sore. Every conceivable precaution must be taken against bed-sores. The surrounding parts should be smeared with some greasy substance to resist the moisture, such as vaseline, zinc dressing, or anything that may be considered equally suitable for the purpose. Nurses cannot fail to recognize the necessity of making a patient in this distressing condition as comfortable as possible.

The Nurse must keep a careful look-out for hæmorrhage or rigors. The occurrence of either must be promptly reported to the Surgeon.

Lithotritry. The only point to which special attention need be called in cases of lithotritry is that the Surgeon will expect all the urine to be carefully measured and strained, and all the fragments of stone reserved for his inspection.

Stricture. When a Nurse has charge of a case of stricture she must guard against chills, see that the bed and body linen of the patient is supplied warm, and watch carefully for rigors, and the urine must be carefully measured.

Uterine operations. In most uterine operations the special point a Nurse has to keep in remembrance is that the patient must not be allowed to stand or sit up for some days, though in other respects she may feel and be quite well. It is very important that the Nurse should keep for the Surgeon's inspection all pads, or clots that may be passed, as these are most important for diagnostic purposes.

Ruptured perinæum. There are one or two details that perhaps I should mention in connection with cases of ruptured perinæum. Most Surgeons prefer the knees to be tied together until the patient is lifted from the operating-table and has come round from the anæsthetic, but this is not absolutely necessary. The patient should lie on her back, with a pillow under the knees. After the first day she may be gently turned from side to side to suit her inclination. The patient must be persuaded to lie as quietly as possible for at least a week, and must be lifted, instead of being allowed to help herself, when occasion requires.

The catheter must be passed eight-hourly, or, of course, oftener if necessary, though the patient must be encouraged to wait for the full time if possible. She must always be turned on her side to be dressed so that the stitches near the rectum which are most important, can be kept clean. Sterilized gauze must be put close up to the root of the stitches, so that these may lie between folds of gauze; this will also prevent the buttocks from becoming damp.

An aperient is generally given on the fifth day, usually castor oil $\frac{3i}{}$, followed in half an hour by an olive oil enema, given with a sterilized catheter and funnel (see p. 141). The patient must be syringed generally with Hyd. Perch., 1 in 4000, each time she has her bowels opened. Some Surgeons prefer that the patient should be swabbed instead of syringed, but in either case she must be left dry and comfortable. When the aperient is given, the patient will probably be able to pass urine naturally. Whenever this takes place the dressing must be done immediately. It is advisable to encourage the patient not to require dressing more than three or four times in the 24 hours.

Douches are not usually ordered, but if they are, the douche must be given with a sterilized catheter and funnel, and either Iodine in the proportion of one drachm to a pint, or Hyd. Perch. 1-4000 is generally ordered, at a temperature of 105° to 110° Fahr. As a rule, this douche would only be given once in the twenty-four hours.

If by any chance any faecal matter or urine should get on to the dressing, the patient must be carefully re-dressed as soon as possible.

Vaginal hysterec-tomy. Recently the custom of leaving several pairs of forceps hanging to the top of the vagina has been abandoned, and these cases are nursed with less anxiety. Formerly some

Doctors used from five to nine pairs of forceps, others from fifteen to twenty-two pairs. If this treatment is employed and the Nurse is responsible for preparing the instruments, she must inquire very carefully what is the maximum number the Doctor is likely to require. These forceps must be carefully watched so that they do not touch the bed or bedding, or get knocked out of place. A Nurse must carefully notice whether any hæmorrhage is going on, and must look especially under the back—not at the end of the forceps—to satisfy herself on this point, for the blood generally trickles down between the buttocks to the back. The forceps are removed at an interval varying from twenty-four hours to four days. After removal no internal douche must be given for six or eight days, as the septic discharge from the vagina may easily be washed up through the newly formed adhesions into the peritoneal cavity, and set up peritonitis. If a douche is ordered, it must only be given very gently just at the orifice of the vagina, with a sterilized catheter and funnel. If the discharge is very offensive the vagina can be externally swabbed with sanitas or Hyd. Perch. 1-4000. The bed must be made as for a case of infusion (see p. 43), with a piece of lint to draw under the forceps to show if any hæmorrhage is taking place. When ligatures are used instead of forceps a Nurse must carefully report if any of them come away. When ligatures are used for a case of vaginal hysterectomy, the vagina is usually plugged with a piece of sterilized gauze,

which is left in for forty-eight hours. The feeding is regulated in much the same manner as for cases of ovariectomy. It is important to take every precaution possible against any tendency to vomit.

Peritonitis. After an abdominal section or vaginal hysterectomy, signs of peritonitis have to be carefully watched for, as it is a very grave complication, and one which tends towards a fatal termination if the attack of peritonitis is severe. Patients sometimes complain of acute pain, but this symptom is not always present. One of the most serious symptoms of peritonitis is intense tenderness and general distension of the abdomen. The distension of the abdomen which sometimes occurs during the first twelve hours after an operation, is often due to flatulence. In this case the tenderness is less acute than in peritonitis. The vomiting caused by flatulence is generally accompanied by distressing retching. The vomiting which goes with peritonitis takes place without effort, beginning first in mouthfuls of sour fluid, changing from dirty water colour to grass-green, and then brown.

Patients suffering from peritonitis have a distressed and anxious expression, a grey complexion, sunken eyes, a pinched nose, and dilating nostrils, with thoracic breathing, and sometimes complete inactivity of the abdominal muscles. The patient has a dry, hard, furred tongue, and suffers from active thirst; usually, not always, the temperature rises. The patient has a quick, small, wiry, running pulse, and is usually very restless and wakeful. There is sometimes suppression or retention of urine. No flatus passes per rectum. The patient lies with knees drawn up, and always looks extremely ill. The patient also suffers from hiccough. This symptom is often relieved by strong smelling-salts.

In some cases of peritonitis there is extreme consciousness, associated with very great hopefulness of speedy recovery. This condition sometimes continues quite up to the time that the patient dies.

There are no special instructions for the nursing of patients suffering from peritonitis, apart from those which apply to the care of all cases of abdominal section. Extreme

gentleness is absolutely necessary, and every possible means must be taken to try to afford relief.

Tracheotomy. Both skill and attention * are required for the efficient nursing of tracheotomy cases, as the life of a patient in a great measure depends upon the prompt assistance and unremitting care of the person in charge. With children it is necessary to be doubly watchful, lest they pull out the tube in a paroxysm of difficult breathing, or lie over it, and thus prevent the access and escape of air to and from the lungs. Grown-up patients are easier to nurse, because they are generally able to understand their condition; but in nursing them also, a Nurse must be careful to forestall their wants as much as she possibly can. She must remember that the operation of tracheotomy renders it impossible for a patient to make himself heard until he has learnt to place his finger for a moment over the tube, and this is an additional reason why his needs should be anticipated.

Tracheotomy tent and steam-kettle. For a tracheotomy case in some instances, but not as a matter of routine as was formerly the case—a tent surrounding the bed will be needed. This is frequently made of cotton sheeting, cut the required shape. It may be bound round with a little scarlet braid to give the bed a brighter appearance. In hospitals, light rods adapted for the purpose are made to fit on the cots, so that the tent can be very easily adjusted, and the whole cot can be moved without difficulty. This covering serves to keep away all draughts, and to preserve an equable temperature in the immediate neighbourhood of the patient. It also condenses the steam—for a steam-kettle is generally, though not invariably, employed. Great care must be taken not to scald the patient, by allowing him to come in too close contact with the steam. A ward thermometer should be hung inside the tent, to ensure the desired temperature

* A practical paper on the nursing of tracheotomy cases has been printed by the late Dr. Hayward of Haydock for London Hospital Probationers, which all Nurses undertaking the charge of these cases would be well-advised to study. This was kindly revised by Mr. Russell Howard, Surgeon to the London Hospital in 1910.

being maintained. Where no special orders are given, this should be from 65° to 70° Fahr. The great object in reference to the temperature which the Nurse should keep in view is maintaining it at all times, night and day, as *equal* as possible. It is *variations* of temperature, either in the direction of heat or cold, which have to be guarded against. For this reason a Nurse should replenish the steam-kettle with boiling water, so that the steam may be steadily maintained without intermission. She must not fill up the kettle with cold or warm water, which must of necessity prevent a supply of steam for an interval. I should mention that the kettle must never be more than half full, otherwise the full quantity of steam desired will not come out of the spout.

The Nurse must have at hand a basin of water, swabs, feathers, lime water, carbonate of soda, olive oil, glycerine, lint and cotton wool; linen tape or flat white elastic for fastening in the tube; a receiver, in case of vomiting; a soft towel and the tracheotomy instruments should be close at hand, but covered up out of sight, and out of the patient's reach. If the Nurse cannot have the dilators, a pair of forceps should always be at hand. It is not safe for a Nurse to be left without them. The pilot must also be near in case the tube comes out and has to be re-inserted. In these cases emergencies are not remote possibilities, but extreme probabilities, and a Nurse must ever be on the alert.

Cleanliness of patient's neck. Attention must be paid to keeping the neck thoroughly dry and clean. In feeding the patient milk is apt to spill. It becomes sour on the patient's skin, and possibly the moist atmosphere, when a steam kettle is used, increases the tendency to make the neck get sore. It should therefore be wiped over with a wet swab when necessary. Some Doctors order a piece of gauze to be laid lightly across the tube with a view to moistening the air, and it may arrest any minute particles coughed up from the trachea. On the other hand, if a patient is restless, it is difficult to keep a loose piece of gauze in place. If employed at all, it needs frequently changing. Some Doctors like a swab, or a small piece of flannel rung out of hot water and placed across the

tube. In this case the swabs or flannels have to be frequently renewed. In ordinary cases that are doing well, Doctors usually prefer to dispense with both these things.

A Nurse must take great care that the tube is not suddenly jerked or coughed out while she is renewing the tape or elastic with which it is fastened. She should, as far as may be practicable, pass the fresh tape or elastic through the fastening before removing the other.

Feathers are occasionally useful for clearing the lower end of the outer tube if it gets temporarily blocked. Some Nurses get into a habit of poking feathers into the tube on all occasions, with more vigour than discretion, forgetting that such a proceeding is apt to irritate the trachea, and is, moreover, quite unnecessary. Nevertheless, a feather judiciously applied can be of great service in removing mucus that is clogging up the trachea and the entrance to the tube, and there *are* times when nothing else is equally well adapted for the purpose.

**Cleaning
the inner
tube.**

A very little practice will teach a Nurse how to remove, clean, and replace the inner tube with facility, but Nurses should be warned always to replace this tube immediately, and never to let it remain out longer than is needful for cleansing purposes. The patient may have the appearance of breathing easier through a somewhat larger aperture, but, if the outer tube becomes clogged with mucus, a Nurse has not the same power of removing and cleaning that, and the patient may thus very shortly be in imminent danger of suffocation.

When the inner tube is removed for cleaning, hot water, to which some carbonate of soda has been added, cleanses it most effectually. It is a good plan for the inner tube to be slightly oiled inside and outside before being re-inserted, as this makes it less likely that the mucus will stick to it.

The inner tube should be removed and cleaned every two or three hours, as well as when the patient has any special difficulty which leads the Nurse to suspect that it is getting blocked up with mucus or membrane. A profuse secretion of mucus is not a bad symptom. In cases where the tube gets quickly clogged up, it is well, if possible, to obtain a second inner tube of exactly the same size, so that when

one is removed for cleaning it can be immediately replaced by the other. A Nurse must pay special attention to the removal of any fresh pieces of membrane which may get coughed up the tube, and she must prevent their being drawn back again as promptly and skilfully as she can.

‘Lobster-tailed tube.’ Occasionally a Doctor may employ what is known as a ‘lobster-tailed tube,’ i.e. the inner tube is made of separate pieces joined together, having somewhat the appearance that its name implies. When this is used the Nurse’s anxiety is distinctly increased. It is not only that accidents have been known to happen in the way of the last portion of the tube coming off and being left in the outer tube, where it speedily becomes imbedded in mucus, but that great care needs to be exercised in the removal of the inner tube at all. A Nurse should insist upon being shown exactly how to handle a lobster-tailed tube before allowing herself to be left in charge of the case. If possible, she should ask to be shown a specimen of the tube, and allowed to handle it freely, to make sure that she understands it. Otherwise she will find that when she merely intends to facilitate the removal of the inner tube, the outer tube will come out of the trachea at the same time, thus placing the patient in considerable danger, and the Nurse in a difficult position. A Nurse must never hesitate to confess her ignorance and ask for a careful explanation in such circumstances as these. It may literally be a case of risking the patient’s life to cover her own ignorance, and that is far too heavy a price to pay for any folly of this kind.

If the outer tube comes out, or any other unfortunate accident happens, a Nurse must remember that *life* may *literally* depend upon her presence of mind, self-control, and promptitude. If the operation is not quite recent, the Nurse may be able to replace the tube herself while the Doctor is being fetched. But, unless the trachea has become accustomed to the tube, it is by no means an easy matter to do what is quite simple under other conditions. It sounds far less alarming than it really is to have an unfortunate patient choking and fighting for breath while a vain endeavour is being made to replace the tube. Yet, unless the

Nurse can manage to keep the wound open, the patient may be dead before it is possible for the Doctor to reach him.

It is useless for a Nurse to attempt to replace the tube while the child is tossing about in its cot. She must immediately take the child in her arms and place it across her knees with the head thrown back. This position will enable the Nurse to get at the wound, and, if she cannot insert the tube, she will be able to keep the trachea open with a pair of dressing forceps, if the dilators are not at hand, until the Doctor arrives.

The three distinct objects which a Nurse must always keep before her in taking charge of tracheotomy cases are—(1) keeping the tube free from mucus, (2) maintaining an equal temperature, and (3) a careful support of the patient's strength, by inducing him to take the nourishment ordered. It is a good plan for some nourishment to be administered every two hours. It is very useful for a Nurse to remember that tracheotomy patients can often swallow soft solids easier than liquids.

In no circumstances must a case of tracheotomy be left alone for a single moment.

The Doctor usually removes the tube as soon as it can possibly be dispensed with, except, of course, in cases where the operation has been performed in consequence of some growth pressing upon the trachea. In these instances the tracheotomy will become chronic. A suitable tube will always have to be worn, and the patient, in most cases, gradually becomes accustomed to it, and learns how to manage it himself.

In these anxious cases, and in private houses especially—they are one of the most anxious that a Nurse can possibly have to undertake—a Nurse cannot afford to relax her attention for a minute.

Nurses must always be careful lest in attending to these cases they catch by accident any of the discharge which is forced out of the tube with some violence, and which may prove dangerous to the Nurse if the case be of an infectious nature. The Nurse should immediately wash over the part which has been touched with some disinfectant. If

anything of this kind has been coughed into her eye, she must immediately bathe it with boracic or some other disinfectant. She must do the same thing if she has forgotten and rubbed her eyes with her hands after touching the tracheotomy tube. Prompt action is invaluable on such occasions, and may prevent any harm rising from the accident.

When a Nurse is in attendance in the warm, moist atmosphere that a case of tracheotomy requires, she must be careful to wrap up before she leaves the ward, and to keep out of draughts, for in such circumstances she is likely to be more than usually susceptible of cold. It is more than ordinarily important that Nurses should get plenty of fresh air in the intervals of their close attendance on these anxious cases.

Ophthalmic cases.* Among Ophthalmic cases which require special nursing, those after operations for cataract and glaucoma are the most important, as their ultimate success is considerably influenced by the care of the Nurse. It is very important that the patient's general health should be in as good a condition as possible. Therefore, if the Nurse has charge of the patient for some time before the operation, she must see that he is well nourished, and that he gets plenty of fresh air. She must also notice if the patient is suffering from a cough, and be sure to report this fact to the Surgeon. The shaking arising from the act of coughing is apt to have an unfavourable influence on the result of the operation.

In all Ophthalmic cases draughts must be most scrupulously guarded against. Any exposure to cold air, which in ordinary conditions would hardly be recognized as a draught at all, is apt to have an irritating effect, and even to set up inflammation in eye cases.

A Nurse must take special care to cheer Ophthalmic patients, remembering that their condition of blind helplessness is very depressing. The more they learn to like and trust the Nurse, the more service will she be able to render them.

* I am indebted to Mr. W. T. Lister, Ophthalmic Surgeon to the London Hospital, for the following instructions on the nursing of Ophthalmic cases.

Cataract. When cataract cases are awaiting operation, it is not difficult to understand with what keen anxiety the patients must be looking forward to the result, nor could a sympathetic Nurse fail to realize how intensely the patient must long to know whether the Surgeon's skill will be able to give sight to the blind, or whether this precious gift must remain lost to them for ever. The patient must therefore be kept as cheerful as possible, and prevented from brooding over the coming operation, and for this reason, Ophthalmic operations are best done early in the morning.

Preparation of the patient. Before the operation the Nurse must see that the patient's head, face, and neck are absolutely clean. The hair must be brushed back from the face, and, if long, it should be neatly arranged in two plaits, as the patient may not be able to have it thoroughly brushed again for three or four days. In other ways an Ophthalmic patient is prepared for operation in the usual manner.

As regards cleanliness, sterilization of hands, instruments, and everything which comes in contact with the eye, a Nurse must, of course, be as scrupulously careful as in general Surgery.

The day before the operation the conjunctival sac is washed out with lukewarm boracic lotion, care being taken to note the presence of redness or any discharge, and especially if after pressing over the lacrimal sac there is any regurgitation of mucus, or pus, a condition which must be at once reported to the Surgeon. Most Surgeons like the eye to be bandaged up with a pad of sterilized Gamgee tissue the night before the operation, to see if there is any discharge from the conjunctiva on the pad next day. The usual aperient is given the night before, followed by an enema in the morning if necessary.

The room. The room for the operation should have a window with a clear sky space, up to which the bed is brought, with the foot as near the window as possible. No direct sunlight should fall upon the bed, a north light therefore, is preferable.

Operating table.

Most Surgeons prefer to operate upon patients in their own beds, as in this way there is no straining or bumping associated with lifting the patient from the table to his bed. The difficulty is to get a bed high enough, so that the Surgeon will not have to stoop. At the London Hospital there are bedsteads with a movable head piece, and it is a great convenience to an Ophthalmic Surgeon when one of these can be obtained. (See p. 35.) In some Hospitals and Nursing Homes beds are on stands which bring them to the right height ; where these are not at hand the bed can be raised on blocks, or two or three mattresses can be placed one above the other. The foot of the bed has often a lower end than the head, the bed can then be made up in the reverse way, so that the patient lies with his head towards the lower end.

Instruments.

If a Nurse has charge of Ophthalmic instruments she must treat them with the utmost care, so that nothing is done that may blunt the edge or point. Those which are to be boiled should be placed for the purpose in a 1 per cent. solution of sodium carbonate, and after use they should be dried on a piece of soft linen ; an old handkerchief is one of the best materials to use.

Most Ophthalmic operations are done under cocaine, but when the eye is red or tender a general anæsthetic has to be given. One of the advantages of cocaine is that it does not produce any tendency to vomiting as an ordinary anæsthetic does, and it is very important to do everything possible to obviate this tendency in Ophthalmic cases. Another advantage is that the patient can have his usual meals up to the time of the operation, and this prevents his getting low in his mind as well as in his body.

To cocaineize an eye.

To cocaineize an eye a 2 per cent. solution of cocaine is used ; a drop is instilled into the eye to be operated on, six times, at intervals of three minutes, and two or three drops are placed into the other eye lest some solution falling into this during the operation might induce squeezing. During the intervals between instilling the drops the eye must be kept closed, as the corneal epithelium is very liable to become dry.

Before an Ophthalmic operation in which a general anæsthetic will be given, a Nurse must always remember to explain to the patient that both eyes will be bandaged up afterwards, otherwise when he recovers consciousness he will be seized with a terrible fear that something has gone wrong as he finds himself in complete darkness.

As regards dressings, sterilized pads of cyanide Gamgee are used, or rounds of cyanide gauze covered by pads of sterilized ordinary Gamgee tissue. Bandages with selvedged edges are preferable.

After the operation. The patient is kept absolutely still on his back with strict typhoid nursing; he must get up for nothing. The only exception to this is if the patient cannot pass water lying down; in this case he may be raised very gently, supporting both the head and back, so that there is no straining. The main trouble is aching in the back; this is best obviated by the use of a water pillow. After the first day or two most Surgeons allow their patients to lie on the unoperated side with a pillow under the shoulders and back, to obtain a change of posture. The blinds are kept down, and the patient is not allowed to talk much for the first day. The patient usually complains of a dull aching pain in the eye for the first few hours after operation, which gradually subsides; if the pain is very severe, or if any blood is seen to be oozing from the dressing the Surgeon must be sent for at once.

Food. For the first few days this should be very light; slops, pounded or minced fish or white meat are given, in order to avoid much movement of the jaws.

Hobbling of the hands. It is advisable to hobble the patient's hand on the operated side, allowing movements as high as the waist, but no higher, lest in his sleep he should knock the eye. A bandage with a clove hitch is passed round the wrist and tied to the side of the bed. With children padded cardboard splints are bandaged on the inside of the elbow to keep the hands from the eyes.

Dressing. The eye is dressed every day, the same strict antiseptic precautions are taken as at

the operation. The hands must be washed and sterilized in some antiseptic, and of course the bandage must be taken off before the hands are disinfected. In dressing a number of cases in a ward the clean cases must be dressed first, and the hands dipped in antiseptic lotion between each one, while after dressing a case with discharge the hands must be thoroughly washed. Highly infectious cases should, if possible, have a special Nurse, who should have charge of no other patient. The dressing is very gently removed, soaking it with sterile boracic lotion if necessary; the lids are washed with a sterilized swab dipped in similar lotion, and any discharge is very gently wiped away from the lashes. The lower lid should be gently drawn down to let any tears escape, and atropine ointment or drops inserted. The upper lid must not be touched by the Nurse, and no pressure must be made on the globe. No examination of the eyes is expected of the Nurse before the third day. Swelling or redness of the lids must at once be reported to the Surgeon.

It is usual for the patient to remain in bed for a week after the operation. After this, if all goes well he is allowed to sit up in bed for meals, and to sit beside the bed on necessary occasions, great care being taken to avoid all straining, but this freedom will depend upon how the eye is doing. If, however, the patient is restless, or if there is any tendency to cough, or congestion of the lungs, especially in fat plethoric subjects, he should be propped up in bed after twenty-four hours or earlier.

Both eyes are bandaged for three days; after this the pad and bandage are taken off the unoperated eye, but the operated eye is kept bandaged for at least a week, the unoperated eye being protected from bright light either by a dark glass or a shade. If all goes well the pad may then be dispensed with during the day, the patient wearing dark glasses, and these should be worn for at least three weeks, or longer, if there is any injection of the eye, but the operated eye should be bandaged at night for at least a fortnight after the operation. If the eye is free from redness and all goes well the patient may go out at the end of a fortnight; he should not go out earlier however well he has done. Sometimes old people go off their heads after the operation; they must be given the

unoperated eye at once, and allowed to sit up in bed or in a chair to restore their mental equilibrium.

These instructions are merely given for general guidance, and indicate what is customary in nursing these cases. It need scarcely be insisted upon that the orders of the Surgeon for whom the Nurse is working must be scrupulously carried out in every case.

Glaucoma. Glaucoma is the condition of increased tension; the eyeball is too hard, and in acute cases the pressure inside the eye if unrelieved, will lead in a short time, to permanent blindness. Such cases are therefore urgent, and call for immediate treatment. Too frequently patients do not realize the gravity of the condition soon enough to seek treatment at the stage when it would be of service to them. In acute cases of Glaucoma the pain is very intense, and is often associated with vomiting, which may be so severe that the case is mistaken for one of gastric trouble, also the impairment of sight is severe and rapid in onset. But, in chronic cases there is often little or no pain, and all that the patient notices is gradually failing sight with occasional attacks of misty vision, and gas lamps may have coloured rings round them. The chief operations for Glaucoma are either iridectomy or trephining of the outer coat of the eye. The nursing of such cases is similar to that after cataract extraction. No atropine, however, is used in these cases, except by the Surgeon's special orders.

It may here be noted that in ordinary Glaucoma eserine is used, and will help to reduce the tension and cure the Glaucoma, while atropine will increase the tension and very likely blind the eye. It is therefore always of absolute importance for the Nurse to look at the label on the bottle, before using drops, as a large number of eyes have been blinded by the use of the wrong solution.

Iritis. Iritis arises from various causes, and is liable to occur after extraction of cataract or any intra-ocular operation. It is often accompanied by severe pain. The routine treatment of Iritis which may be varied in individual cases is—

- (1) to dilate the pupil with atropine and not be satisfied until the pupil is fully and evenly dilated.

- (2) to relieve the pain and congestion by the application of heat to the eye and leeching to the temples.

Application of heat. Heat may be applied in various ways.

(1) *Hot fomentations.*—Hot fomentations are commonly ordered. They should be made with several layers of lint and a large pad of cotton wool covering the protective to retain the heat as far as possible, but in spite of this, unfortunately, they soon become cold.

- (2) *Hot bathing.*—Hot bathing, if properly carried out, is exceedingly effective, but is quite a different procedure from ‘washing out the eye,’ which will be described later. In hot bathing a pad of wool wrung out in very hot boracic lotion is applied over the closed lids, while in washing out the eye the lotion must pass inside the lids to be of any use. In hot bathing we need a bowl of boracic lotion, a pad of wool, a kettle of boiling water, and a basin into which the lotion can be thrown when it gets cold. The actual strength of the boracic lotion is immaterial. The wool is dipped into the hot lotion, wrung out as dry as possible, and gently laid over the eye; as soon as it gets cool it is dipped again; but the lotion also soon cools and half of it is then thrown away and more boiling water is added, and so on, keeping the pads as hot as can be borne. Patients will in a short time stand great heat. We start at about 100° Fahr. and can go up to 140° Fahr. The bathing should go on for about 15 to 20 minutes.

- (3) *Dry heat.*—Sometimes the lids get sore and will not stand moist heat. In these cases a Japanese muff warmer, or an electric pad are very useful, and even pads of wool heated on a tin containing boiling water give great relief when the eye is so tender that it can stand no pressure.

Leeches. Leeches are one of the best means of relieving pain in the eyes. In applying these care must be taken that they do not attach themselves internal

to the orbital margin, or a black eye will be the result. A round of Gamgee tissue with a hole cut in the centre is placed over the temple and a leech is applied by means of a test tube, and when it has taken hold the body is laid on the Gamgee. When it has dropped off, a fomentation may be applied to increase the bleeding, or if this has gone on too long, it may be stopped by touching with a stick of nitrate of silver.

Washing out the eye. In washing out the eye to remove discharge, as in Ophthalmia, luke-warm boracic lotion is used. The lids are gently separated and a little lotion is allowed to trickle over the eye from an undine or a small pad of sterilized wool which has been dipped in the lotion. This is preferable to the use of a syringe which might damage the patient's cornea, and even squirt some discharge into the Nurse's eyes. In severe cases the lids should be everted if possible, and all discharge scrupulously washed away.

Putting drops into the eye. In putting drops into the eye the lower lid is drawn down and the drop is placed in the groove between the lid and the eye. Care should be taken that the dropper does not touch the lashes or conjunctiva, or the whole solution in the bottle becomes infected. In painful eyes it is well to put the bottle into a cup of hot water to warm the drops before instillation. Among drops which are commonly used, atropine is often ordered, but Nurses must remember that in patients over forty years of age atropine may in some cases set up Glaucoma and cause blindness, it must therefore never be used without special and direct orders from a Doctor.

Ointment. Ointment is inserted by means of a glass rod which is both cleaner and safer than a brush, the quill of which may scratch the cornea. One must always carefully note that the end of the glass rod is rounded and not broken. A little ointment is taken on the end of the glass rod, the lower lid is drawn down, and the ointment inserted at the outer angle, between the lid and the eye. The upper lid is brought down to meet the lower and the rod is then taken out. In this way the ointment is wiped off

the glass rod and stays in between the lids. The rod must be sterilized after each application.

Bandaging the eye. When bandaging one eye the roller should always be brought from the eye to be bandaged *towards* the nose. This will keep the dressing up towards the nose, while if it is bandaged in the opposite direction the dressing will soon be found under the ear! The safety pin should be fixed over the forehead above the sound eye; *never* over the affected eye. Eyes with profuse discharge should never be bandaged or tied up in any way, but a shade or dark glasses worn.

Everting the lids. To evert the upper lid it is essential that the patient looks down. The lashes of the upper lid are taken between the finger and thumb of one hand, and the lid is then drawn gently downwards and forwards, meanwhile the upper edge of the thickened plate of the lid is pushed downwards, either with the edge of the thumb of the other hand or a probe placed horizontally on the skin about half-way up the upper lid. It will now be found quite easy to evert the lid by raising the lower margin of the lid by means of the lashes.

When turning the lid back again the patient will have much less discomfort if he remains looking downwards.

Painting the lids. A Nurse is often called upon to paint the lids with some solution of silver. After instilling a few drops of cocaine, and having washed away all the discharge, the lids are everted. She then dries them with a pad of wool, and the application is made by a wool mop on the end of a small glass rod (this is better and cleaner than a brush) right to the upper and lower folds of the lining membrane, but taking care to keep the solution from the surface of the cornea. After painting, the eye should be washed out with luke-warm boracic lotion. When using nitrate of silver the solution should never be stronger than 10 grains to the ounce, except under special orders. The second application should never be made until the small slough produced by the last application has come away. Silver nitrate should never be applied when the lids are brawny or there is an adherent membrane,

and lastly, applications should be stopped as soon as the discharge has ceased.

In painting children's eyes the Nurse must take care that the child does not rub its eyes on her sleeves, and in dealing with large numbers of children a jaconet apron and sleeves should be worn.

Ophthalmia neonatorum. If care is taken at a confinement, Ophthalmia Neonatorum ought never to occur. Four rules should always be observed :

- (1) It is essential that the baby's eyes should be wiped as soon as the head is on the perineum, so that all discharge is removed from the lids before the baby opens his eyes.
- (2) In Hospital practice always instil into each eye one drop of a solution of nitrate of silver, 10 grains to the ounce, as soon as possible after birth. (N.B. a solution weaker than this is not effective.) In cases which are known to be clean the eyes should be washed out with a solution of perchloride of mercury, 1 in 4000, in place of the nitrate of silver.
- (3) In giving the baby its first bath the face should never be washed in the same water as has been used for the body.
- (4) If there is any sign of inflammation or discharge the Doctor should be notified immediately.

Babies with Ophthalmia should have their eyes washed out with boracic lotion every hour during the day and every two hours during the night, and after bathing, a little boracic ointment should be smeared along the edges of the lids to prevent their sticking and penning up the discharge, and the lids are painted as a rule every day with nitrate of silver solution.

To wash out a baby's eyes or to paint the lids single-handed is often difficult. The best plan is to wrap him up in a blanket or shawl and fasten with a safety pin. The child is laid on a couch and the Nurse stands below, steadying the child's body with her elbows leaving her hands free to wash out the eyes, etc. If the lids have stuck, great care must be taken to keep one's head away whilst separating the lids, lest the matter spurt out into one's own

eyes, and a wise precaution is for the Nurse to wear protecting goggles whilst doing this. Many Nurses have lost their sight from being infected in this way. If help can be obtained it is easier for the assistant to take the baby on her knee, holding the hands, and keeping the legs between her elbows and side, while the Nurse sits opposite taking the baby's head between her knees, which are protected with a mackintosh and towel. The discharge is highly infectious, and scrupulous care must be taken to prevent infection being carried to others. All the swabs which have touched the discharge should be burnt, and the baby's towels, etc., kept carefully for him alone. The Nurse's finger nails should be kept very short and careful disinfection of the hands with free use of the nail brush should be carried out after attending to the child's eyes. As a rule both eyes in babies are affected. If only one eye is inflamed the sound one should be sealed up in the following way to prevent infection from its fellow. The lids are first held together with a strip of adhesive plaster placed vertically; over this a layer of cotton wool is placed, which again is held in position with a piece of gutta percha tissue sealed to the skin with a few drops of chloroform painted on with a brush. The eye should be looked at every few days to see that no inflammation is taking place.

Ophthalmia Ophthalmia in adults is treated with the same care, but if only one eye is affected it is too depressing to have the sound eye sealed up, and a Buller's shield should be used.

A Buller's shield consists of a watch-glass enclosed between two layers of adhesive plaster. Each layer of plaster has a hole cut in the centre so as to allow light to pass through the watch-glass. The inner layer is also cut smaller than the outer both above and on the nasal side, in order to leave the adhesive surface of the outer layer exposed at those margins, so that they can be fixed to the brow and down the nose. The outer and lower parts of the shield are not stuck to the face to allow for ventilation. The part of the shield over the nose should be kept most carefully in position by one or two extra strips of plaster. This is the most difficult place to keep the shield adherent,

and yet it is the most likely part for infection to spread over from the other eye, and needs hourly supervision.

Application of copper sulphate. The eyes are first cocainized and after everting the lids the blue stone or copper stick is gently rubbed over the surface. This should be followed by free bathing with cold boracic lotion, as it causes a great deal of pain.

Foreign body in the eye. If the foreign body is under the upper lid, this should be everted and the grit removed. If the Nurse cannot evert the lid the foreign body may sometimes be removed by drawing the upper lid over the lower, and the lashes of the lower lid will often wipe out the grit; or if the head is placed in a basin of clean water so that the eye is covered, the lashes are grasped, and the lid pulled away from the eye backwards and forwards, when the foreign body will generally be washed out. After removal, a drop of castor oil instilled will often relieve the discomfort.

Mortar or lime in the eye. Mortar or Lime in the eye causes great pain and may also cause permanent injury unless it is speedily removed. The lid should be everted and every particle must be gently and carefully washed out as soon as possible with luke-warm boracic lotion. These cases should always be sent on to a Doctor as soon as possible, as a great deal more damage is often done than appears directly after the injury. Many eyes are permanently impaired and even the less severe cases often take weeks to recover.*

* All these valuable instructions on Ophthalmic Nursing have been kindly written for me by Mr. W. T. Lister, Ophthalmic Surgeon to the London Hospital.

CHAPTER XX*

Infectious diseases. IN nursing cases of fever, questions of infection and disinfection must be clearly understood by the Nurse. In addition to the usual duties towards the patient, the Nurse has to a great extent the responsibility of preventing the spread of the infection to others. The welfare of the public in this respect is largely dependent upon the skill, knowledge, and conscientious care of Nurses. Every one is more or less liable to be the victim of infection, and a sensible Nurse will realize the importance of taking whatever care may be necessary to guard against the risk of contracting herself the disease from which her patient is suffering.

Knowledge of the best means to be taken for the prevention of the spread of different diseases cannot be too generally diffused. Nurses will have innumerable opportunities of bestowing information upon those who are thankful to leave their friends and relations in the hands of a competent Nurse during these infectious illnesses.

Most people take but a passing interest in these matters, until some person they love happens to be the sufferer. Then, when their personal interest is awakened, they will be eager to gain plenty of practical information on the subject, and will naturally turn to the Nurse to supply it.

Much ignorance prevails in connection with the proper management of infectious diseases. Old prejudices survive, and are handed on from one generation to another, as though they were scientific facts. It is a Nurse's duty to study these subjects, that she may be able to insist upon all the

* I am greatly indebted to Professor W. Bulloch, F.R.S., for revising this and the two following chapters to enable me to bring various details up to date in accordance with modern teaching.

necessary precautions being taken on the one hand, and to prevent unreasoning and unnecessary fears on the other.

'Contagion' means 'to touch together,' and is a term employed to denote that a healthy person *touching* a diseased one may have conveyed to himself the disease from which the latter is suffering.

The word 'infection' is applied to the substance or influence by which a disease is transmitted from one person to another, either with or without actual contact.

How infectious diseases spread. To speak briefly of the conditions under which infectious diseases are considered to spread, the generally accepted theory is that infecting specific germs may be dispersed in a variety of ways—wafted by the air, carried by

water and milk, or conveyed by our clothes, books, or anything with which we come in contact. There can be little doubt that in the majority of cases the spreading of these diseases is brought about by the healthy mixing with the sick or convalescent before their recovery is complete. Children, after attacks of infectious illness, are allowed to go back to school long before such a step can be taken with safety to their companions. Laundresses disseminate the poison amongst their employers, when the linen from these cases is sent to them in an infected state. These poor women have sometimes lost their lives from receiving clothes that have come straight from fever patients while impregnated with the microbes of diseases. I name this source of infection specially because it is one with which the Nurse has much, or, indeed, everything, to do.

Disinfection of bed and body linen. It is a Nurse's responsibility to see that all the bed and body linen of her patient is saturated in some approved disinfectant, and, if possible, rendered absolutely safe by boiling, before it is handed over to the laundress. The risk of actively spreading infection by neglect of proper precautions in this respect is very great. It is scarcely possible for a Nurse to be too conscientious in the discharge of this duty.

There are numberless other ways by which fevers can be

conveyed, but I need not now dwell upon them at greater length.

A preventable disease has been well described as—

‘one which arises or spreads in consequence of the wilful, careless, or ignorant violation of those laws, the proper observance of which we know to be necessary to ensure the preservation of health and to avert the spread of disease. . . . Accepting, as we do, the theory that each case of infectious disease originates in the reception of a distinctly specific, pre-existing poison, and that it in turn becomes self-propagating, we will first point out some features which are common to the whole group, and then speak a little in detail of the distinctive characteristics of these “zymotic diseases,” as they are usually called.

‘They all begin with a period of what is termed either “dormancy” or “latency,” or more generally “incubation,” during which the poison is actively developing. But the duration of this period differs in each disease. These differences in the length of the incubation period are probably due in each instance to the amount and strength of the poison received.

‘These fevers are all ushered in by a marked and sometimes sudden elevation of temperature which, with variations, continues during the course of the illness. It is because of this increased temperature that they are called fevers. Characteristic eruptions next appear.’

Unfortunately we have no remedy that is able either to cure these disorders or to shorten their duration, and we are obliged to content ourselves with placing the patient in the best hygienic conditions, and with treating any complications as they arise.

Patients must be confined to bed during the whole course of the fever, and all bodily and mental exertion must be strictly prohibited. The room must be maintained at an equable temperature, not exceeding from 60° to 65° Fahr., and plenty of fresh, pure air must be admitted to the patient. Free ventilation is of the utmost importance. All superfluous furniture, including curtains, and, if possible, carpets, must be removed. If the carpet is retained, it must be frequently wiped over with a damp cloth which has been dipped into some disinfectant.

The room must, of course, be kept quiet. If the patient shows much tendency to mental excitement and delirium, it will be best to darken it.

Patients suffering from fevers may generally partake freely of liquids, such as water, iced water, toast-and-water, barley water, lemonade, and so on. Formerly a popular prejudice existed against giving cold water to patients with fever, and greatly must the sufferings of these unhappy victims, parched with thirst, have been increased by such ignorant treatment. I mention this especially because it is well for Nurses to know that there are no grounds for a prejudice they may frequently meet with. But a Nurse must remember that these patients will be eager to drink all they can get. She must not put into their hands too large a quantity at one time, and expect them to 'drink a little of it.' She must put as much as she intends them to have in the vessel they are to drink from, and then give them a fresh supply when they need it. They may have frequent draughts of water, but not too much at one time. It is very thoughtless to make children cry by giving them a cup or a feeder full of water or any other liquid, and then to take it away from their eager little lips when the Nurse thinks they have had enough. She should let them have the satisfaction of drinking it all up, and give them another drink very shortly. I hope those who are nursing children will never fail to remember this.

Adminis- When the temperature is high, food cannot
tration of be properly digested, so patients are usually
nourish- kept without solids, and nourishment supplied
ment in solely in the form of liquids. The Doctor will
fever cases. order the diet he may prefer for each indi-
 vidual case, and, as a continued high temperature is ex-
 hausting to the patient's strength, he will, of course, expect
 the necessary nourishment to be given with the utmost
 regularity.

Food which has been in an infected room must be destroyed, and not sent away to risk its being partaken of by other people. A Nurse must, therefore, be careful not to let more than is needed be carried into the patient's room.

The crockery which the patient has been using must be washed and *boiled* before being taken into general use again.

Washing fever patients. Another point which Nurses can scarcely lay too much stress upon is the necessity for absolute cleanliness, not only of the patients' surroundings, but of the patients themselves.

There is a curious dread of washing and sponging patients when they are suffering from fevers. It is thought that the rash would be 'driven in' if the surface is touched with water. This popular belief has probably arisen from a well-founded horror of fever patients 'getting a chill,' and very serious reason there is for extreme care in guarding against such a possibility. It is not difficult for those who possess the least knowledge of physiology to form some idea of the danger of checking the action of the skin at any time, and this danger would be immensely increased in a condition of fever. It would result in extra work being suddenly thrown upon the kidneys, producing in all probability inflammation of those organs, with the fear that it might be followed by dropsy and other grave complications.

But Nurses must remember that there need not be the slightest risk of taking cold either by frequent sponging, or by frequent changes of linen, but that, on the contrary, the patient will be relieved and benefited by both. The passage of a damp sponge, not quite cold, unless specially ordered, is a source of great comfort to a patient whose skin is dry and burning with fever. It not only affords comfort, but is of positive service, as it tends to *increase* the action of the skin (see p. 94).

This is a useful illustration of the value of good Nursing. Here is a remedy and a means of relief of which Doctors dare not avail themselves, if they cannot rely upon its being skilfully carried out. The recognition of this fact will serve as an inducement to Nurses to take pains about apparently trifling details.

The bed and body linen must be carefully aired, but a Nurse need not insist upon putting it on warm, if this is not agreeable to the patient. The sensation of the cold linen against the burning skin is generally very welcome to any one suffering all the discomforts of a high temperature.

In fever cases the Nurse must be careful to have the

patient placed on a spring bed, if possible, with a hair mattress and light bedding.

A Nurse must remember to use a damp duster in the neighbourhood of an infectious case, and not to send the dust, which may be mingled with poisonous germs, flying about in all directions. The duster must be immediately soaked in some disinfectant after it has been used.

Typhus fever.

Typhus fever, which is an extremely contagious disease, is now practically extinct.

The poison is thrown off mainly by the skin, and readily infects clothing, and furniture, so that the chief precautions are those of ventilation and disinfection. It is now known that the infection is conveyed by fleas and bugs, and as this disease occurred chiefly in conditions of extreme dirt and poverty, it is easy to understand how rapidly the infection spread by this means.

Sometimes typhus fever sets in suddenly with a rigor and a temperature of about 104° Fahr. the first evening. The thirst in typhus fever is usually troublesome for the first few days. Delirium does not come on as a rule till towards the end of the first week. The muscular power is greatly depressed sometimes, even during the first stage of the disorder; the prostration is extreme, and the tendency to stupor and indifference to surrounding objects very great. Towards the end of the first week the eruption peculiar to typhus fever commonly begins to show itself, though sometimes it does not appear until later. Sir William Jenner calls the eruption which is distinctive of typhus fever 'the mulberry rash.' After the third day of the eruption no fresh spots appear. It disappears in the course of the third week of the disease. The character of this rash varies with its age. It is never papular, but consists at first of very slightly elevated spots, of a dull crimson colour. Each spot is flattened on its surface, irregular in outline, and disappears completely under the pressure of one's finger. In two or three days these spots undergo a marked change. They are no longer elevated. They become darker, dingier, more defined, and then they only *fade*, and do not disappear under pressure. From this condition, the spots, in most instances, grow paler, pass into faintly marked reddish-brown

stains, and finally vanish. The spots or stains composing this 'mulberry rash' are generally very numerous, set closely together, and sometimes they almost cover the skin. They are usually spread over the trunk and extremities, occasionally over the trunk only, and now and then they are seen on the face. Each spot remains visible until the whole rash disappears. To this rule there is one exception. The eruption sometimes shows itself first on the backs of the hands, and leaves those parts within twenty-four hours. When numerous, the spots have not all the same depth of colour, consequently the surface has a mottled look. It is in the course of the second week of the disease that death is most apt to take place in typhus fever.

Typhus fever, after the first week, has a characteristic odour of its own, by which Nurses learn to know it. It has been said that the vapour which imparts this smell, imparts with it the typhus poison; we are also told that the pupils of the eyes are usually contracted in typhus. During the third week of typhus fever, the patient's chance of recovery improves. When convalescence has once fairly begun, it goes on rapidly, and recovery from typhus fever is generally both early and complete.

This disease is much less fatal to young children than it is to adults. After fifty-five years of age it is said to destroy one-half of those whom it attacks.

Small-pox or variola. There is no contagion so strong and sure, or that operates at so great a distance, passing from house to house, and from street to street, as that of small-pox. The patient charges the air, and everything about him, with a most subtle and deadly virus, derived chiefly from the skin and mucous membranes, but not restricted to them.

Vaccination. The only protection against this terrible disease is vaccination, which should be repeated at least once after the fourteenth year.

It is said that—

'People of the present day, who complain of the temporary inconvenience and almost infinitesimal danger of vaccination, can only do so through ignorance of the horrible suffering, disgusting

deformity, and appalling mortality which attended small-pox in former times. It is estimated that in England during the eighteenth century, nearly one-third of all the inhabitants, ladies included, were pitted with small-pox, which caused about ten per cent. of all the deaths taking place every year. The mortality was so great that one out of every four, and, in some epidemics, one out of every three, attacked, died of this frightful malady ; and when we remember that every one seized with it became immediately an object of danger, dread, and loathing to his best friends and nearest relations, and, if he or she recovered, was generally rendered repulsive-looking for life, we can faintly realize what a blessing Jenner's discovery has been to the world.'

Vaccination, if repeated sufficiently often, is an almost certain protection against small-pox. In the rare cases in which those who have been recently vaccinated contract the disease, the severity of the symptoms is wonderfully diminished. At present, small-pox is the only infectious disease from which Nurses can protect themselves, before coming in contact with it. Therefore, they can nurse these cases with confidence that they are only running the minimum of risk for themselves.

It is a Nurse's duty, as far as possible, to persuade every one who is brought in contact with a small-pox patient to be re-vaccinated, unless this has recently been done.

Small-pox usually sets in with sharp, feverish symptoms, rigors, followed by heat and dryness of skin, with nausea, vomiting, and pain in the back. Children do not shiver, and, therefore, in their case, it is sometimes ushered in with an attack of convulsions, which is the equivalent to a rigor in an adult. The peculiar eruption almost always begins to show itself on the third day of the fever. At first the pimples feel hard like small shot under the skin. The earlier it comes, the more severe the attack is likely to be. The eruption comes out first on the face, then on the neck and wrists and on the trunk, and lastly on the lower extremities. As a rule, it does not cease to come out until the fifth day.

'The severity of the disease is almost always in direct proportion to the quantity of the eruption. The number of pustules indicates, in the first place, the quantity of the variolous poison

which has been reproduced in the blood. In the second place, it is also a direct measure of the extent to which the skin suffers inflammation. Sometimes there are not more than half a dozen pustules; sometimes there are thousands. If all these were collected into one, it would be an enormous abscess. For both these reasons, the system suffers commotion, distress, and peril in proportion to the quantity of the eruption.'

When the pustules are very many they run together, and then it is called 'confluent small-pox.' The pimples gradually increase in magnitude, but it is not till the third day of their appearance that they begin to contain a little fluid on their summits. It is the eighth day of the disease, and the fifth day of the eruption, before they become perfectly turgid. During the time in which they are thus filling up, the face swells; often to so great a degree that the eyelids are closed and the skin between the pustules on the face assumes a damask-red colour.

About the eighth day of the eruption a dark spot makes its appearance on the top of each turgid pustule, and at that spot the cuticle breaks, a portion of the matter oozes out, and the pustule dries into a scab. This process begins on the face, and pursues the same course, only two or three days later, upon the extremities. The feet and hands swell just as the face swelled, but they begin to swell just as the features begin to resume their normal size.

Many things are recommended to relieve the intolerable itching, and to prevent the pitting which is so frightfully disfiguring—painting the surface with collodion, castor oil, nitrate of silver, carbolic oil, glycerine, vaseline, and many other things. Nothing has as yet been discovered which can be regarded as infallible for this purpose, but, whatever the application ordered, the Nurse must see that it is regularly applied. It is of great importance to bathe the eyes frequently with the lotion ordered, and to keep them as free from discharge as possible.

There is least risk of fatal termination between the ages of ten and fifteen; below five the complaint is often fatal; and after forty the danger increases in proportion to the age of the patient.

Chicken-pox.

Chicken-pox is a highly contagious disease—one attack renders the patient immune for life in the great majority of cases. It seldom requires much treatment beyond a warm bath and remaining in bed. It frequently begins with slight fever, and within twenty-four hours a number of small reddish pimples appear, generally on the back. The second day these become vesicular, and by the fifth day they have usually disappeared. A Nurse must be very patient and gentle with little children when they get fretful and complain of the constant itching of the eruption of chicken-pox. It often distresses them much, and makes them feel very unhappy while it lasts. It will afford immediate relief if the Nurse just dabs the itching parts from time to time with 1-40 carbolic solution. Nurses must not fail to pay attention to the little complaints of children, for this often consoles them as much as the remedies applied.

Mumps.

Mumps is an acute febrile, very infectious disease, attended with swelling of the salivary glands. The incubation period varies from eight days to three weeks. The infection lingers for two or three weeks. It is very rare for a person to suffer from a second attack of mumps. Rest, warmth, and care for the week or ten days during which this disease lasts is all that is required, but it is wiser, for the first few days, at any rate, for the patient to be kept in bed. If the pain is severe, the Nurse may be ordered to apply some soothing liniment, or warmth in the form of fomentations or poultices. In any case it is well to keep the part covered from the air with a light, soft handkerchief, if no further remedy is prescribed. Handkerchiefs used by a patient suffering from mumps must be destroyed, or very carefully disinfected.

An attack of mumps is very weakening, and it takes the patient some little time afterwards to fully recover from the effects.

Whooping-cough has been defined as—

Whooping-cough.

‘an infectious, specific disease, chiefly affecting children, lasting six or eight weeks, rarely attacking the same person twice, and accompanied by a peculiar spasmodic cough. . . .’

‘Three weeks may elapse before children, who have been exposed to infection, show signs of it by the whoop; they, therefore, should not mix with others who are susceptible till this period is safely over. Infection persists for six or eight weeks after the disease is declared; after this, there may be a return of cough or spasm without fresh danger of infection. . . .

‘The period of incubation is well-marked in all cases, and extends from four days as the shortest limit, to ten days or a fortnight as the longest.

‘. . . Usually some catarrhal and febrile symptoms, with or without cough, appear from the fourth to the seventh day after exposure to infection. The invasion, or catarrhal, stage lasts a week. The whoop mostly begins ten days from the ingress. . . .

‘The invasion of whooping-cough is insidious, rarely with chills. Some fever or cough is first noticed at night; the child is better next day, but loses appetite, is fretful, or looks pale and languid. The pulse is quick, and the respiration shallow. There may be sneezing or signs of catarrh, but these mostly appear after another night of fever, or of teasing, frequent cough, which may be croupy before secretion begins. . . . Instead of a freer secretion soon following and relieving the symptoms, as in ordinary catarrh, the cough increases. . . . It comes on in fits, mostly at night; in the day there are intervals without cough. When the cough is coming, the child’s face reddens, as if trying to suppress it, till it bursts out in a series of short, quick, forcible efforts; then the breath is drawn in with a shrill whistling sound, again followed by the boisterous cough; after a short pause comes a less severe and shorter fit, and then another, till a quantity of whitish viscid mucus is expelled, some perhaps through the nose, and some swallowed, or the child vomits at the same time. . .

‘There is no specific for whooping-cough; no drug to check its onset, or stop its progress. The disease is of long duration; the patient is usually a child. Hygienic conditions must be observed, and means used to prevent distress, reserving the more active remedies for special occasions. Rest and warmth, with much individual care, and the utmost attention to a sufficiency of pure air, are requisite from the first, and indeed throughout the illness. . . .

‘Whatever moderates catarrh lessens the force of the attack, and fresh catarrh increases it. . . .

‘The disease often lasts two months, and is followed by a tedious convalescence.’

Light nourishing diet should be given, and plenty of it. Sometimes a paroxysm of coughing causes the patient to

vomit a good deal of undigested food. A Nurse must see that a fresh supply is taken soon after the cough has subsided, as this gives the food a better chance of being digested before the next paroxysm of coughing comes on. The fits of coughing are very distressing, and the patient dreads their occurrence. But, in the intervals between the paroxysms, there is no discomfort, and, after the feverish symptoms have subsided, the child feels perfectly well except during the attacks of coughing.

Sometimes whooping-cough is complicated with an attack of pneumonia or pleurisy, and these are very serious cases. In such conditions, it is very important that an even temperature be maintained, and the air of the room be kept warm as well as fresh. The Doctor will order the treatment he deems best adapted to whatever complications may arise.

Measles. Measles begin with all the symptoms of a common cold, running at the eyes and nose, sneezing, hoarseness, cough, and difficulty of breathing. The characteristic eruption usually appears on the fourth day. It is two or three days in coming out, beginning on the face, neck, and arms, then reaching the trunk, and finally the lower extremities.

‘ In this course it resembles the eruption of small-pox. It fades in the same order, standing out for three days at least upon the face, before it begins to decline ; so that its whole duration comprises a space of six or seven days. It becomes browner as it fades.’

The eruption can be felt slightly elevated above the general surface of the skin, especially upon the face, which is somewhat bloated and swollen. The parts which the rash has recently occupied are left covered with a dry, small scurf, which crumbles away in a fine, branny powder. Unlike small-pox, measles are not severe nor dangerous because the eruption is plentiful and early. The eruption is the distinguishing feature of measles, but the catarrhal affection is in every way the most important. Diarrhœa is very apt to set in when the rash is fading, but the great danger of measles is pneumonia, which is very likely to supervene.

The period of incubation for measles is from ten days to a fortnight. The contagion is active enough, but certainly it is less strong and diffusive than that of small-pox.

A Nurse should use soft pieces of old rag or linen, instead of good pocket-handkerchiefs, to wipe the eyes, mouth, and nose of patients suffering from measles, as these discharges are highly infectious, and it is best, when possible, to burn material that has been in contact with them.

Scarlet fever.

Scarlet fever is generally marked by the characteristic affection of the throat and the distinctive rash. It is highly infectious. For this reason many Doctors still approve of the old-fashioned plan of saturating an old sheet in some disinfectant and hanging it over the door outside the patient's room. If there is any difficulty in fixing up the sheet it is easy for a Nurse to keep it wet without wringing it out afresh. The period of incubation for scarlet fever is short, usually not exceeding five or six days, sometimes briefer still. The rash of scarlet fever commences in minute points, which speedily become so numerous and crowded that the surface appears to be universally red.

‘They begin on the neck, face, and breast, and extend to the extremities, pervading at last every part of the skin. It is peculiarly distinct at the bends of the joints, and on the chest and abdomen. The eruption usually stands out for three or four days and then begins to fade, disappearing altogether, as a rule, towards the end of the seventh day.’

About this time desquamation of the cuticle begins to take place—in small scurf or scales from the face and body, in large flakes frequently from the extremities. Any process which is likely to prevent the infected skin impregnating the atmosphere in a fine powder is very important, and sometimes Doctors order olive oil, eucalyptus oil, or simple dressing to be rubbed over the patient's skin. This makes the particles heavy, and less likely to fly about in the air. On the other hand, some patients extremely dislike being kept in a greasy condition, and, as this is not essential for their welfare, there is no need to insist upon it, unless the Doctor desires it. The more general practice at

the present time is to induce the patient to take plenty of warm baths, to which some disinfectant has been added.

The patient cannot be considered safe to mix with others until the peeling is quite over. The severity of this disease is chiefly marked by the extent of the throat mischief. The tonsils may be simply inflamed, or they may become the seat of extensive ulceration and even gangrene. The throat symptoms must receive constant attention on the part of the Nurse, and any remedies ordered be assiduously applied.

**Syringing
the ear.**

If the patient complains of ear-ache, the Nurse must not fail to report it to the Doctor, as in some cases severe local trouble arises. This may end in permanent deafness, unless prompt measures are taken. Sometimes a Nurse receives orders to syringe the ear with warm boracic lotion, warm water, or any other application the Doctor may prefer. In doing this the Nurse should pull the external ear slightly forward and upward, with a view to straightening the passage which leads down to the drum of the ear, so that the fluid can flow gently right into it. Sometimes leeches are ordered, or hot poultices give comfort to the patient. In acute pain it occasionally affords relief for the patient to bend the ear over hot water, to which some ether has been added. A little cotton-wool should be put in the ear after any warm remedies have been employed.

A Nurse can hardly attach too much importance to the necessity of guarding her patient from all risk of cold during the convalescent stage, for the slightness of the attack of fever is no guarantee against the susceptibility to many diseases which scarlet fever has a tendency to leave. Inflammation of the kidneys, Bright's disease, dropsy, and rheumatism, are among the serious diseases to be feared as the consequence of any carelessness in this respect.

Some Doctors recommend that after the process of desquamation is entirely over, the patient must still be kept isolated for a week, and should have a daily bath containing some reliable disinfectant, so that at last every square inch of the body will have become thoroughly disinfected. It is useful for a Nurse to be aware of the fact that women are not deemed free from infection until after the next monthly

period. A Nurse must be very careful, too, about the head and the hair, for the disease poison, both of scarlet fever and of small-pox, is apt to linger among the dandruff that accumulates at the roots of the hair.

Disinfection of patient and clothing. When the patient is about to mix with others again, the Nurse must see that he has a warm bath, and puts on entirely fresh things that have not been worn during his illness.

Any flannels, or woollen materials, which he has worn, and which cannot be disinfected by boiling, must be sent to a proper fumigator for disinfection, unless they are fortunately old things that can be completely destroyed. A Nurse must carefully explain the necessity for confiscating these things, but she must not exceed her duty by disposing of them without the consent of those to whom they belong. She will find many people perfectly willing to act upon her advice, but it is probable that she will also come across instances where those inexperienced in these matters are inclined to ignore, and to profess disbelief in the existence of an evil which they cannot see for themselves. This is a more serious difficulty for a Nurse to contend against than when the patient's friends go to the other extreme, and are too apprehensive of imaginary dangers. The Nurse must endeavour to do her duty tactfully on these occasions. She will usually find the Doctor very ready to support her, when she has made him aware of the difficulty. But, in any case, the Nurse must remember that it is her duty to let those for whom she is working be made fully aware of any risk they are running, so that if she is not allowed to take all the precautions she would like to prevent the spread of the disease to others, she may at least be free from any ground for self-reproach, should the result not be satisfactory.

Letters written by patients suffering from infectious diseases must be baked in an oven before they are posted. Any letters written by the Nurse in the patient's room must be treated in the same manner.

It is a Nurse's duty to thoroughly disinfect the sick-room, and any adjoining room into which things from the sick-room may have been carried whilst still in an infected state.

Disinfecting the room. To disinfect the room, all drawers and cupboards must be opened, and the windows and fireplaces carefully pasted up with strips of paper.

Cylinders of sulphurous acid gas (liquefied) can be obtained for this purpose, costing 1s. 6d. per cylinder. One cylinder is sufficient to disinfect an ordinary-sized room, but two must be used if the room is large. The Nurse has simply to open the cylinder in accordance with the directions given, and then to leave the room immediately, pasting up the door from outside. If this disinfectant is not to be had, an ordinary bath (a flat sponge-bath is best) partially filled with water must be placed in the middle of the room. The Nurse must procure an old iron plate—an old saucepan, or a large iron shovel would do. This must be securely placed over the bath—an arrangement that can easily be made with the assistance of the fire-irons. When all is ready, the Nurse must place a shovelful of live coals in whatever she has procured to receive them, and pour over them a pound, or for a large room a pound and a half, of powdered sulphur. For the larger quantity it may be desirable to have two iron plates, old saucepans or shovels, ready to receive the sulphur, and both can conveniently be placed over the same bath. The risk of fire is obviated by placing these over a bath containing water, as any falling sparks would be immediately quenched. The Nurse must leave the room directly she has poured the sulphur on the coals, and paste strips of paper over the crevices of the door. The room must be left for at least twelve hours, after which it will be safe for the windows and grate to be thrown open, and for the ordinary cleaners to take possession. If the walls are papered, the Nurse should persuade the householder to have the paper taken off, and the walls washed down with some strong disinfectant before having the room re-papered. If the walls are distempered, they should be washed down with some strong disinfectant, and then colour-washed in the ordinary manner.

If it has not been possible to remove the carpet during the patient's illness, it must be taken up *after* the room has been fumigated and sent away with the mattress, pillows

and bedding to be thoroughly disinfected. Needlework, unless it consists of materials which can be boiled, together with books, papers, or toys, which the patient has handled should be destroyed, for they cannot be securely disinfected, except on exposure to a degree of heat which is in itself destructive to the materials of which most of these things are composed.

The great encouragement in Nursing fever cases is that so much depends upon the Nursing, as far as the result of the disease is concerned. All Nurses have a weakness for patients who 'do them credit,' and the Nurse's feeling that she is fighting a stern battle, the issue of which depends largely upon her care and skill, gives her an inexhaustible supply of hope, and goes far to reward her for the keen anxiety of her work.

Women who fear infection for themselves are greatly to be pitied, but they have no business to be Nurses, and the sooner they understand that they have mistaken their vocation the better it will be for all concerned. Except perhaps a natural shrinking that may come across the bravest of women occasionally, as the possibility of catching some horrible disease suggests itself to her, there are not many Nurses who find this fear a difficulty to them, nor is it necessarily a selfish thing to have the sensation of fear. It is not wrong or anything but natural to have such a feeling occasionally; the wrong would only be in allowing one's self to yield to it.

When epidemics of cholera or of plague occur, there is never any dearth of volunteers as eager to Nurse these patients as though doing so were not fraught with personal danger to the Nurses themselves. But the greater danger where Nurses are concerned is lest others should suffer at their hands just *because* they have no fear for themselves, or have become so familiar with the risk of infection that they have to all intents and purposes ceased to realize its existence. It is not too much to say that many experienced Nurses become culpably negligent in carrying out the precautions against the spreading of a dangerous fever, which have been enjoined upon them, and which they know by heart.

We are all apt to forget, or to ignore, what we do not see or feel, and to take but little definite notice of our everyday surroundings, and so perhaps there is nothing very remarkable in the fact that this generally accepted attribute of human nature should be painfully illustrated by Nurses who devote their time *solely* to the care of these infectious cases. If only infection were a visible instead of an invisible danger, and if only it could be borne in mind that it is as real as though it could be felt and seen and touched, this warning would not be so necessary as it is. No Nurse has a right to excuse herself, or to expect others to excuse her for the neglect of a single detail when she once *knows* that the consequences *may* be terrible to others. The carelessness of which I speak seldom arises from anything but sheer laziness, which, in such conditions, becomes a want of trustworthiness. The negligence *may* not do any harm. That is quite true. But those who know that it *may* do so have no right to run the risk. The mischief done may never be traced back to the Nurse, but that does not alter the 'right' and 'wrong' of the matter. Nurses who shrink from the self-denial involved in being very faithful over the little things, and who cannot make up their minds to face all the trouble that these entail, would be well-advised to change their occupation, and to find employment which does not bring the health and happiness, and perhaps the lives, of their fellow-creatures into their hands. It is no exaggeration to say that carelessness in regard to matters of infection and disinfection involves questions of life and death to others. The conscientious discharge of the duties which fall to a Nurse's share in this connection means the carrying out of high principles as opposed to lax and slovenly work.

'Let love be your motive and reward while you live.'

A Nurse cannot choose any 'middle' course where details like these are concerned. Her work *must* either be thoroughly efficient or absolutely untrustworthy.

There is always the *possibility*—it is not more than that, for the proportion of Nurses who 'catch' things from their patients is very small in the aggregate—but there *is* the

possibility, which no Nurse need shut her eyes to, that she may have to suffer herself, or that she may meet her death as a direct consequence of attending to her patient. I have already spoken of the quiet courage that Nurses need, and the possibility of danger to herself makes no true woman turn from a clear call of duty.

It is this element of personal danger (which in practice a Nurse is comparatively seldom called upon to face, and yet which is always there to be reckoned with if the need arises) which places the work of soldiers and of Nurses on the same level. Nothing—above all, no thought of personal risk—can tempt the true Nurse or the true soldier from the post of danger when duty places them there. It is this very fact that sheds a halo over the ideal of a Nurse's work. Many lives have been cheerfully sacrificed as a penalty for serving others, and the memory of them remains to sanctify the work, and to inspire the hearts of the thousands always ready to follow in their footsteps.

‘ And how can love lose doing of its kind
Even to the uttermost ? ’

It very seldom happens that a Nurse is called upon to ‘ lay down her life ’ for her patient. But, if it so happens that the Angel of Death thus greets any one of our number in the midst of her cheerful ministrations to others, we may rest assured that she herself would be the last to regret that she was found at her post, using her Nurse's talent faithfully to the end. The highest things that are worth living for are worth dying for too, if the need arises, and Nurses who are in earnest will not be afraid that any good to others will cost themselves too dear.

‘ Do thy duty ; that is best ;
Leave unto thy God the rest ! ’

CHAPTER XXI

Typhoid fever. TYPHOID differs from the other fevers, in being non-infectious through the air. It is for this reason that it can, with certain precautions, be nursed with perfect safety to the other patients in the general wards of a hospital.

This malady is conveyed by the contents of sewers and cesspools, and by the drinking of impure water. When the water is suspected, it is not sufficient precaution only to boil that which is used for drinking. The water which is used for cleaning the teeth, and for personal washing, as well as that used for washing all utensils employed for eating and drinking purposes, must also be carefully boiled. I mention this fact because it is a common error to suppose that if the drinking water has been boiled, sufficient precaution has been taken to guard healthy persons from all risk of infection.

The specific germs of typhoid fever are given off from the patient's body chiefly in the motions and urine. The disease is conveyed by some material contaminated by the fæces or urine of a patient suffering from the disease, or occasionally from one who has had the disease and who to all appearances may have recovered entirely. The ordinary means of transmission are from water, milk and other food-stuffs, such as vegetables, oysters, etc. If excretions from a typhoid patient have soiled and dried on the bed and body linen, the dust arising from these will contain typhoid germs. Therefore, such articles must be immediately placed in water to which some disinfectant has been added, when they are removed from the patient.

If typhoid germs get diffused in the atmosphere, they may easily be inhaled by human beings, and swallowed with the

saliva. These germs have the power of living for some months in moist earth. If great care is not taken in cleansing and disinfecting the hands in nursing typhoid cases, typhoid germs may easily be conveyed direct to the Nurse's mouth.

When typhoid germs have gained access to the alimentary canal, they begin to grow and multiply. The seat of the attack is the intestines chiefly, and the poison is mainly eliminated by that channel. Accordingly, it is the intestinal discharges that claim most careful attention, and every precaution must be taken, by prompt removal and disinfection, to prevent typhoid fever spreading to others by this means.

Disposal of typhoid stools. Discharges from typhoid patients possess their maximum infective power when they are fresh from the patients. The object aimed at is to kill all the typhoid germs in the motions and urine of typhoid patients before these are disposed of. The best plan of all would be the immediate destruction of all typhoid evacuations by fire. But this is seldom a practical possibility, and Nurses have, therefore, to become efficient in the successful employment of some reliable disinfectant. They must pay intelligent attention to two points, *i.e.* that the strength of the disinfectant employed is sufficiently powerful, and that it is allowed enough time to act effectually. The stronger the solution of the germicide (*i.e.* a germ-killing substance), the less time is required to kill the germ.

It is now generally considered that lysol is one of the best disinfectants that can be employed in cases of typhoid. For ordinary purposes, such as the washing of the Nurse's hands and the cleansing of the clinical thermometer, a solution of 2 per cent. of lysol is deemed strong enough. But, where the material which has to be disinfected is dense in texture, or large in mass, as may be the case with typhoid stools, a 10 per cent. solution of lysol must be employed in sufficient (*i.e.* an equal) quantity to the bulk which it is desired to disinfect, so that it can be thoroughly penetrated with the germicide. A 5 per cent. solution of lysol (which mixing a 10 per cent. solution of lysol with an equal bulk of other material would represent) is sufficient to disinfect typhoid

stools, if it is in contact with them long enough to act effectually.

If carbolic is the disinfectant preferred, a Nurse must remember that if she adds an equal bulk of 1-20 carbolic solution to the typhoid stool, the strength of the mixture as it stands is only 1-40. This strength of carbolic acid cannot be depended upon to kill typhoid germs instantly. If 1-20 carbolic solution is the disinfectant ordered, after thoroughly mixing the stool, or urine, with twice its bulk of this solution, it should, if possible, be allowed to stand in the lavatory, carefully covered up, for a quarter of an hour before throwing it down the sink.

Whatever disinfectant is employed for the purpose of disinfecting typhoid stools, Nurses must remember to use plenty of it, and to take care that the germicide is well *mixed* with the material that has to be dealt with. No disinfectant can effectually fulfil its mission unless it is brought into actual contact with the germs it is intended to destroy.

Importance of keeping patient absolutely at rest in bed. The special characteristics of typhoid fever are inflammation and ulceration of certain glands (known as 'Peyer's patches') in a particular portion of the intestines. This is the main cause of the tenderness of the abdomen on pressure, and it is this ulcerated condition of the intestines which is the chief reason why patients have to be kept absolutely at rest in bed. They must never be allowed to sit up, unless it is necessary for the Nurse to raise and support them in this position for a brief period during the medical examination. They must never be allowed to stand or to get out of bed on any pretext whatever. It is this ulcerated condition of the bowel that explains why it is usually deemed a matter of such vital importance to keep typhoid patients without solid food. The risk of perforation of the bowel, if any hard article of diet comes in contact with, or gets deposited on membranes in this condition of ulceration, is obvious. If a Nurse fully realizes this herself, she will consider no trouble wasted in impressing upon the poor patients themselves, and upon their friends, the absolute necessity for enforcing to the letter the Doctor's orders concerning liquid diet.

Feeding of typhoid patients. At one time the almost universal custom was to keep typhoid patients on liquid diet for ten days or more after the evening temperature remained normal. But the present tendency, with many physicians, is to modify this treatment considerably. Some Doctors allow an egg very lightly boiled, and thin bread-and-butter, for instance, or a small quantity of bread, which has been very carefully boiled in milk, at quite an early stage, carefully watching the effects. Milk chocolate is very generally allowed and proves a welcome variety to the patient. It need scarcely be pointed out that a Doctor can only venture on this treatment if he can place absolute dependence upon the care with which his orders will be carried out. It is the Nurse's duty to scrupulously obey the instructions of the Doctor in every case.

The routine system usually observed in typhoid cases—unless orders are given to the contrary—is to give the patient five ounces of milk every two hours, thus ensuring that the patient gets three pints in the twenty-four hours. Some Doctors order the milk given to typhoid patients to be previously boiled. Sometimes five ounces of beef-tea is ordered to be given in change with the milk. But this is less done than formerly, as milk is considered more nutritious.

If the patient dislikes milk very much, or gets tired of it, some Doctors allow it to be flavoured with tea or coffee, or chocolate, which has been carefully made. This must be given cold. The change in taste sometimes checks a tendency to vomit, but, of course, nothing must be given without orders. In any case not less than the three pints of milk should be given in the twenty-four hours, although the quantity of *liquid* may be increased, otherwise the patient may be getting too little nourishment.

The patient may have a little drink of water, or soda-water, after nourishment has been given, if he is so disposed. This tends to keep the mouth clean and moist, and to get rid of the taste of any nourishment which he may have grown to dislike.

In cases of diarrhoea, lime-water is often given with the

milk. In cases of constipation, barley-water is frequently mixed with the milk.

Typhoid patients need not be kept thirsty. They may always have water to drink. Frequently albumen-water is allowed, *i.e.* the whites of eggs strained through a piece of fine muslin, and mixed with an equal quantity of water. This may be flavoured with lemon, if desired. If the patient is ordered stimulants, it is a good plan to mix them with albumen-water.

Great care must be taken to keep the mouth, teeth, and tongue of a typhoid patient thoroughly clean and nice with lemon-juice and glycerine, or any other mouth lotion the Doctor may order (see p. 46). This must be done every four hours at first, more frequently if necessary, and less frequently when the patient is getting well.

Position of typhoid patient. The patient must be kept in the recumbent position, but not lying on the back, as he often has a great inclination to do. In the early stages of the disease he will voluntarily turn from side to side. But, in the later stages, which are usually attended with great prostration and stupor, he will, if left to himself, lie passively like a log. The Nurse must with the necessary help turn him gently first to one side and then to the other, using a pillow to support the patient in the required position. This is not only done to prevent the occurrence of bed-sores, but partly to obviate the tendency to hypostatic pneumonia, *i.e.* a low form of pneumonia which is apt to be set up by the stagnation of the blood at the bases of the lungs on account of the feeble action of the heart.

A Nurse must not attempt to move a typhoid patient without assistance. It is very important that he should not be allowed to make the slightest exertion on his own account, and he may do this almost involuntarily unless trained methods of nursing are carefully carried out.

In certain stages of typhoid fever it must not be forgotten that the act of sitting up suddenly may induce perforation of the bowel, and syncope (sudden failure of the heart's action) has always to be guarded against in these cases.

A Nurse must not forget to notice the quantity of urine

passed by a patient suffering from typhoid fever, and she must not fail to report the fact if there has been any temporary retention.

In typhoid fever the bowels are sometimes relaxed, and sometimes constipated.

Frequently the motions are of a light ochre colour. Sometimes they may contain blood. This is a most important symptom, and one which must be carefully observed. Hæmorrhage from the bowels may proceed to a great extent internally without any blood being actually passed. Its signs are, a sudden fall of temperature, pallor, restlessness, cold sweats, and vomiting, with very feeble and rapid pulse.

Characteristic eruption of typhoid fever. In typhoid fever a number of rose-coloured spots usually appear upon the abdomen and elsewhere. These vanish on pressure, and return when the pressure is removed. Each one lasts about three days, and then fades insensibly into the hue of the neighbouring skin, and other spots follow. These spots usually begin to show themselves during the second week of the disease. Fresh spots come out every day or two till the third week, in the course of which they cease to appear, except in cases of relapse, when these spots may recur with the other symptoms.

This eruption of rose-coloured spots is highly diagnostic of typhoid fever. Apart from relapses, no fresh spots are seen after the thirtieth day, though the illness may continue much longer, protracted by the exhausting effects of the fever, or by pre-existing local complications. Unfortunately these relapses too often occur.

It is stated that the pupils of the eyes are dilated in typhoid fever. Sometimes slight epistaxis (*i.e.* bleeding from the nose) occurs, but it is not a serious symptom unless the bleeding is profuse.

Temperature in typhoid fever. In typhoid fever a Nurse must be exceedingly careful and accurate in taking the temperature. It is a symptom full of interest to the Doctor, and one which may be actively guiding his treatment.

In typhoid cases the temperature is taken every four

hours as a matter of routine. In bad cases it is sometimes taken every two hours, or even every hour.

‘The aspect of the temperature chart in the first few days may be, if the patient is under observation from the very beginning, a help to diagnose the disease. The temperature does not rush up all at once like it does in pneumonia, but the night and morning dots, when joined, form an ascending zigzag line.

‘The period of the disease, that is, whether in the second or third week, may be partly gathered from the chart. In the second week the line is, in a typhoid case, fairly even, with only slight morning remissions. Towards the end of the disease, the morning remissions become greater, so that the night and morning chart shows steep up and down angles.

‘As the morning temperature may be normal for some time before the evening temperature is, the observation of the evening temperature is very important in order to decide when the patient is convalescent. As relapses are very liable to occur at the end of a week of apparent convalescence, this observation of temperature should be continued for at least a fortnight or three weeks after the fever seems gone.’

In many acute diseases, of comparatively short duration, the fever may be high without its being in itself a source of special danger to the patient.

‘A Nurse must remember that the *fever* is a symptom, not the *disease*. In typhoid fever the patient often tends to death simply from the disastrous effect of the long-continued high temperature, and treatment has to be directed specially to the abatement of this symptom.’

Sponging the whole surface of the body with warm, tepid, or cold water, at stated intervals, or whenever the temperature reaches a certain point, will probably be ordered (see p. 94). When this is the case, the temperature must be taken both before and after its application.

When the temperature is not high enough for sponging to be ordered for the purpose of reducing it, the patient is usually sponged all over carefully with warm water night and morning as a matter of routine.

Sometimes wet-packing is resorted to, *i.e.* enveloping the body in a sheet wrung out of warm or cold water (see p. 94).

Sometimes less distress and shock may be caused to the patient in carrying out this treatment by wrapping a dry sheet round the body, and then gradually wetting it by means of a sponge or syringe. In some cases the patient is kept continually immersed in a bath of warm water.

Ice-cradling is sometimes employed, *i.e.* keeping over the patient's body a cradle, to which vessels containing ice are suspended. There are special appliances made for this purpose, but, if these are not at hand, common-sense substitutes can easily be found. For instance, a row of children's sand-pails, baking-tins, or small tin hand-bowls, suspended on the cradle, can be employed if the right appliance is not available. The night-shirt is removed, and the patient covered with a thin muslin sheet. Sometimes this treatment has to be continued for many hours, if the temperature is not reduced. The air surrounding the patient is thus kept greatly cooled, and by this means heat is extracted from the body.

Any sudden drop of temperature must be carefully noted and promptly reported. It may possibly be the result of drugs given to lower the temperature; it may be the first indication of internal hæmorrhage, or other serious symptoms. Inexperienced Nurses might be apt to imagine from the fact that so much attention is paid to bringing the temperature down, that the decrease must of necessity be satisfactory. *It may be*, but, on the other hand, *it may be quite the reverse*; so a Nurse must pay great attention to this and to corresponding symptoms.

Complete recovery from typhoid fever can never be announced till the *evening* temperature shows perfect freedom from fever.

Formerly drugs given with a view of reducing the temperature were much resorted to, but now this treatment is comparatively rare. Doctors occasionally prescribe medicines of an antiseptic nature for typhoid cases. These are not given with a view of actually killing and destroying the typhoid germs, but in typhoid fever the contents of the intestines become very foul by various processes of fermentation and decomposition. These antiseptic drugs are said to have great power in preventing or limiting these processes

and in neutralizing their poisonous products. They also tend to prevent the dangerous distension of the intestines with foul gases.

Medical treatment has often to be directed to support and stimulate the failing vital power of the patient, and especially the heart's action. It is with this view that Doctors frequently prescribe alcohol in some form, or other stimulating drugs. But a Nurse's responsibility lies in carefully watching and reporting symptoms as they arise, and in scrupulously carrying out the doctor's instructions.

Special reports.

In cases of typhoid fever a special report must be kept by the Day and Night Nurses for the Doctor's inspection, so that there may be no difficulty in ascertaining every fact concerning the patient during the whole of the twenty-four hours. When one Nurse succeeds the other on duty, she should read the report left for her with careful attention, that she may have no difficulty in understanding when the last remedies or nourishment were given, and when the next become due. It is all-important that the patient should not suffer, or that there should not be any irregularity in the carrying out of the prescribed treatment, when he is handed over from one Nurse to another at the regulation hours.

There are various forms for keeping special reports. A Nurse must record the exact time at which every item of the treatment ordered is carried out. She must write down when food is administered, and how much has been taken. If the patient vomits, she must record the fact, and mention how long after taking food or medicine vomiting has occurred. It is especially important to notice how soon after taking medicine the patient vomits, as the Doctor may be anxious to ascertain how much of the drug ordered has probably been retained. The Nurse must observe and record how much the patient sleeps, and what kind of sleep ; his mental condition ; if he complains of any pain ; if he is restless, faint, apparently exhausted, and, in short, everything appertaining to his physical condition. A methodical, intelligent report of everything connected with the patient is an immense help to the Doctor, and one which he will value very much in critical cases.

Before going off duty the Nurse should sum up a few important particulars in a separate column, so that the Doctor may be able to see at a glance how much nourishment the patient has taken, how much sleep he has had, how many times the bowels have acted, and if there has been any special variation of temperature.

Typhoid London Hospital Nurses are required to
rules for observe the following rules when attending to
London patients suffering from typhoid fever.
Hospital

Nurses. (1) Patients' clothes must be sent to the fumigator as soon as taken off.

- (2) All vessels (feeders, cups, jugs, bed-pans, etc.) required for the patient, must be marked and kept entirely for that patient's use. (It is customary to paint a T on them with blue enamel paint.)
- (3) All bed and body linen must be put into a covered metal pail provided for the purpose, containing the disinfectant ordered. If the linen should be soiled with evacuations, it must be removed in a small pail containing disinfectant solution brought to the bedside, so as to avoid carrying such linen uncovered through the wards.
- (4) Bed-pans must *always* be carried covered in typhoid as in other cases, and must be taken away *at once*.
- (5) Unless special orders are given to the contrary, some lysol (10 per cent. solution) must be put into the bed-pan, or urinal, before it is given to the patient. If lysol is not used, carbolic solution (1-20), or any other disinfectant ordered, must be employed for this purpose. Lysol is said to be one of the best disinfectants yet discovered. After the vessel has been used, more disinfectant must be immediately added, and the utensil thoroughly cleansed with the same.
- (6) If a typhoid stool is to be reserved for inspection, it must be put with disinfectant solution (unless orders are given to the contrary) into a glass pan in the lavatory, such pan to be covered with a glass lid.
- (7) Any stool reserved for inspection must have a plentiful fresh supply of disinfectant added to it before it is finally disposed of.

- (8) No typhoid stool is to be kept more than twenty-four hours, unless special directions are given to this effect.
- (9) The thermometer must be cleansed in a disinfectant after each time of using.
- (10) A basin of water containing lysol (2 per cent.), carbolic solution (1-60), corrosive sublimate (1-1000), or any other disinfectant ordered, must be kept near the patient's bedside, in which the Nurses must always wash their hands after attending to the patient.

In addition to carrying out all the technical instructions for the nursing of a case of typhoid fever, and for the prevention of the spread of the disease, there is more real nursing to be done for the patient than can easily be defined. It is marvellous how much a true Nurse can do to help him in the terrible struggle he sometimes has to go through in this disease, if, in addition to her technical skill and knowledge of what is required of her, she has a sympathetic insight into his condition. This is a common experience, and has become a well-recognized fact.

The late Dr. Sutton has said, in reference to typhoid fever—

‘Often in typhoid fever a Nurse helps so much in this that she can soothe the mind when opium would deaden too much.’

He also calls attention to the fact that in typhoid fever—

‘There is sometimes much mental failure. We must always be very gentle with the patient recovering from typhoid fever, for the brain wastes as the body wastes, and a wasted brain becomes morbidly sensitive and exceedingly irritable and touchy. . . .

‘After any acute disease with much wasting, we may have to deal with a similar mental condition. Whenever there is great atrophy of the muscular system, the brain commonly wastes, and as it wastes the mind fails. . . .

‘During the fourth and fifth weeks, if the attack has been severe, the condition of weakness is slow to disappear. The pulse remains very weak, the body is very much emaciated, and there is much restlessness at night. We need not, however, be discouraged by such symptoms, for patients who have got so far commonly recover. . . .

‘There may also be a good deal of spinal failure, manifesting itself in weakness of the legs, loss of power over the bladder, and a great tendency to bed-sore. . . . The time when bed-sores are most dangerous is usually in the stage of convalescence. Therefore, the sacral region must be carefully examined from time to time, and measures taken to prevent the formation of bed-sores, and to limit their extension when they have formed. In some cases they may extend so rapidly and so deeply that in a short time the ligaments on the posterior surface of the sacrum are exposed. I have known in such cases this happen ; the typhoid symptoms had entirely disappeared, but the patient died in the fifth or sixth week from exhaustion from the bed-sore. At the post-mortem examination I found that the lungs had recovered, and that the intestine was healthy, and that death was due to the exhaustion consequent on the bed-sore. In the fifth or sixth week the nervous system is in such an unstable condition that the irritation set up by the bed-sore is enough to cause death.’

I have quoted Dr. Sutton at this length because Nurses cannot fail to be impressed with the importance of facts mentioned on such unquestionable authority. It is terrible to think that not only may suffering be needlessly increased, but that a fatal termination may ensue as a direct result of careless or inadequate nursing. Every Nurse who realizes the gravity of the patient’s condition will take the greatest pains to prevent the occurrence of a bed-sore.

When so distinguished a Physician has recorded his conviction that there *are* occasions on which a Nurse can be of more value than drugs, she will be unwearied in her efforts to help her poor patient through a critical time by the restful influence of her own sympathetic personality. It is impossible to exaggerate the value of a Nurse’s power in producing a tranquillizing effect upon her patient, in the restless and distressed condition resulting from disease, when none can foretell with certainty what the issue of the next few hours may be.

It sometimes takes patients many months to fully regain their strength after a severe attack of typhoid fever ; but, in the majority of cases, it leaves no permanent ill-effects behind, and the ultimate recovery is complete.

CHAPTER XXII

Diphtheria. DIPHTHERIA is an acute, specific, infectious disease, in which there is severe general constitutional disturbance, as well as inflammation of various mucous membranes, particularly those of the throat and larynx, and the formation upon them of what is known as false membrane. This false membrane tends to spread rapidly. It may come away in various sizes—from little shreds to large pieces almost forming a cast of the part with which it has been in contact. It is sometimes like thin skin, or it may be tough and leathery. Its colour is generally a sort of greyish white.

Diphtheria is caused by the reception and growth of a specific bacillus, which poisons the system. It seems to be more prevalent during the last months of autumn. Children in schools are very liable to catch diphtheria, if any of their number are suffering from or recovering from it. It is most fatal during the first four or five years of life. It is generally spread by direct contagion from one to another, through healthy persons inhaling and receiving the emanations from throat and nose of those suffering from the disease, or from those who have already had the disease and in whose body the diphtheria bacilli persist. Clothes and bedding, which have been in contact with the patient, may be the cause of spreading the infection. The diphtheria bacillus multiplies and flourishes in milk, if it once gains access to it. Therefore, great care must be taken that no one is allowed to touch milk which has been anywhere near a patient suffering from diphtheria.

The period of incubation varies from one to eight days. The onset may be *gradual* or *sudden*.

Cases of gradual onset.

In cases of *gradual* onset, the first symptoms are usually those of an ordinary cold. The child is dull and tired, and disinclined to play. He may seem better for a day or two, but the symptoms return. There may be swelling of the glands of the neck, nasal discharge, and slight feverishness. The throat is generally very red and swollen, with greyish white patches of membrane on the tonsils, uvula, and pharynx, which bleed easily. Sometimes the whole of the fauces may be covered with this membrane. There is always danger of the membrane spreading to the larynx, and with this come hoarseness, loss of voice, restlessness, difficulty in breathing, and all the symptoms of laryngeal diphtheria, which tend to render tracheotomy necessary. If there are no acute symptoms, a hot bath will often relieve the breathing. Emetics are sometimes ordered, but these are resorted to less than formerly, for fear of their depressing effects. But even cases which do not appear very seriously ill must be closely watched, as, though the child may be fairly comfortable for some hours, sleeping quietly, and keeping a good colour, he may suddenly become much worse. When the Nurse observes increasing restlessness and marked retraction (*i.e.* sucking in of the chest-wall), she must lose no time in letting the Doctor know, as tracheotomy may become an urgent necessity.

Cases of sudden onset.

In cases of *sudden* onset, the type of diphtheria is generally laryngeal. In these there is frequently nothing to be seen in the throat beyond, perhaps, a little redness. Probably the day before the child seemed quite well, but the primary growth is in the larynx, and in a few hours he may be fighting for breath, and have become blue in colour, and bathed in profuse perspiration, with the chest-walls sucked in at every inspiration. There may be, also, a croupy cough, and the peculiar sound called 'stridor,' which arises from the narrowing of the glottis by the growth of false membrane, thus causing difficulty in the air passing through.

The duration of the disease is variable. The symptoms may begin to decline at about the fourth day. The patches of false membrane, after separating, cease to

re-form, and the patient may rapidly resume his ordinary health.

In nursing cases of diphtheria, a Nurse should always bear the possibility of tracheotomy in mind, so that if the need for it arises, there may be no delay on her part in making the necessary preparations.

For general instructions concerning the nursing of tracheotomy cases, see p. 243.

I have only to add that when tracheotomy has been performed to give relief in diphtheria, steam-tents are less used than was formerly the case. Many Doctors are of opinion that it is better to give patients plenty of light and fresh air, and that bright surroundings have a beneficial influence. Diphtheria is in itself a very depressing illness. The close air of a steam-tent should be dispensed with if possible. It is, however, necessary to have some curtain to keep off draughts.

In cases where the trachea is dry, and there is difficulty in coughing anything up, a spray is of great use in loosening the membrane. The inner tube must always be removed, and the Nurse must spray through the outer tube. It is worth while going on spraying patiently for half an hour, or even more. There may be little result for quite that time, but, at last, large pieces of hard mucus or membrane, which have caused great obstruction, may be dislodged and effectually removed.

Time for removing the tube. In diphtheria cases the usual time for removing the tube is the second or third day, sometimes earlier. The sooner it can be dispensed with the better, as it lessens the risk of broncho-pneumonia, and promotes recovery. It may be some time before the child can breathe entirely without the tube, though in some cases its removal causes no difficulty at all. There is sometimes discomfort and difficulty in breathing as the wound closes, and the child cannot lie down, or get any sleep. The tube has then to be replaced for a time, to enable the child to get some rest, before it can be dispensed with altogether. This necessity may continue for a fortnight, or even longer. After the tube is removed, the child needs close watching, as it may suddenly get blue

and collapse, and, if there is a renewal of distressed breathing and retraction, the tube must be replaced, and removed again later on.

When the tube is first removed there may be some temporary distress, as the child gets frightened, and coughs a little, and does not breathe very easily. A Nurse should then distract its attention with toys or anything else that interests the child, so that any symptoms which are merely caused by nervousness may pass away. If they do not, the tube will have to be speedily replaced.

The wound often has to be left uncovered for a little while until the child gets accustomed to doing without the tube.

At first, a piece of gauze is placed over the wound, and then boracic fomentations may be used until it heals. These have to be frequently changed.

If the wound smells badly, boracic fomentations are used. Sometimes it is desirable to plug the wound with a strip of boracic lint wrung out in hot water. Spraying or swabbing the wound with lysol (2 per cent. solution) or perchloride (1-4000) improves its condition very much. The parts round the wound must be kept clean with boracic lotion.

Painting, The most difficult order which a Nurse has
spraying, to carry out in a case of diphtheria is to paint,
or swab- swab out, or spray the patient's throat. It
bing the needs some skill and practice to do this
throat. efficiently with young children. They
naturally resent, and very much dislike, this disagreeable
process, yet it is all-important to carry it out effectually.
In the case of children, it always takes two Nurses to do
this thoroughly. One should hold the child on her lap,
keeping the head steady with one hand, and securing the
child's hand with the other. There should be at hand a
small vessel with the lotion ordered, a pair of dressing
forceps, several small swabs of cotton-wool, and a receiver
for the soiled pieces. The second Nurse must sit in front of
the child, and with the left hand depress the tongue with a
tongue spatula. A good deal of patience is often required
to get between the little clenched teeth, and to make the
poor child open its mouth. When the opportunity is seized

of getting between the teeth, an upward movement of the spatula to the roof of the mouth will display the pharynx, and, with the right hand, the Nurse can then take the forceps which hold the swabs, dip them in the lotion, and apply them to the throat. The mouth and tongue may sometimes also be swabbed with advantage. Two Nurses are equally required to spray the throat when the patient is a young child. The child's mouth has to be kept open with the spatula, and its efforts to escape controlled. In the little struggle that ensues, the apparatus used for spraying the throat frequently gets bitten and broken, the application does not reach the affected parts, and therefore the desired object is not attained. Swabbing or painting the throat is not only more effectual, but is, on the whole, less exhausting for the little patient.

This process of cleansing the child's throat is attended with considerable danger to the Nurse. Particles of membrane or mucus are only too apt to be involuntarily coughed into the Nurse's face. It *may* be a very serious matter for the Nurse if infected matter gets into her eye or mouth. Infection can be very directly introduced into the system by this means. Nurses must keep this fact in remembrance, and take immediate steps to counteract the infection, if an accident of this kind happens, by using some suitable disinfectant without loss of time. When nursing a case of diphtheria a Nurse must frequently gargle her throat and be careful to do this before going off duty to her own meals.

**Feeding
diphtheria
patients.**

Food must be given regularly about every two hours. For the first few days it is usual to give two or three ounces of milk at a time, mixed with barley or lime water. Brandy is almost always ordered, and it is specially valuable with children. Care must be taken not to give too much food at one time. If there is much tendency to vomit, it may be necessary to give the milk in very small quantities, and to repeat it frequently, or to give as much nourishment as possible in a concentrated form, such as cream and meat juice. Children often know when they have had enough. If, after taking a certain amount, they refuse the remainder,

it is better to wait a little while, for if they are forced to finish it, they will probably vomit the whole.

Sometimes nasal feeding is necessary; and when children absolutely refuse all nourishment through the pain of swallowing, and struggle violently against it, nasal feeding is the less exhausting plan, and is more satisfactory, because a larger quantity can be given at one time, and it is not necessary to worry the patient so often. Of course, this must never be done without the Doctor's orders. It frequently happens that some of the fluid returns through the tube or wound.

Solid food is more easily swallowed than liquids. Bread-and-butter, bread-and-milk, boiled eggs, custard or jelly, may be given. Children generally like arrowroot, if it is made thick enough for them to swallow without difficulty.

It is important to give as much suitable nourishment as possible in this exhausting disease.

I am indebted to the well-known Aural Surgeon, Mr. Mark Hovell, for the following useful method of relieving painful swallowing:—‘A person standing behind the patient, who should be seated on a chair or in bed, places the palm of each hand, *with the fingers pointed directly upwards*, over the ear on each side, and then makes firm pressure towards the mesial line. The greater the pressure, the greater will be the relief from the pain during swallowing.’

Mr. Hovell adds: ‘This method of relieving painful swallowing is applicable to all cases, whether the difficulty arises from malignant disease, scarlet fever, diphtheria, phthisis, tonsillitis, or any other cause.’

A Nurse must carefully notice the amount of urine passed, and always save a specimen for testing. Albumen is often, but not always, found. The urine is generally scanty. Suppression of urine is one of the fatal complications in cases of diphtheria. Death may also occur from broncho-pneumonia, septic-pneumonia, blood poisoning, suffocation, or syncope.

Heart failure, or sudden syncope, is a dangerous complication which may occur in diphtheria, and which may come on at any period of the disease, even during convalescence. It

is for this reason that adult patients are kept in the recumbent position as much as possible, and that stimulants are usually prescribed.

Paralysis in diphtheria. Paralysis is so frequently an association of diphtheria as to form a characteristic feature of the disease. The paralysis does not occur, as a rule, until about two or three weeks after convalescence has begun, but it *may* occur earlier, or be delayed until the fourth or fifth week after the attack.

The first part usually affected by the paralysis of diphtheria is the soft palate. The patient then speaks with a nasal voice, and is unable to swallow fluids without a portion of them returning through the nose.

When diphtheritic paralysis sets in, progress is often slow, and much patience is required. It is a most depressing complication, but, fortunately, is usually followed by complete recovery, and scarcely ever becomes chronic.

Anti-toxin. The terrors of diphtheria have been much diminished since the success which has attended the anti-toxin treatment has become generally known. The patient should be injected with the diphtheria anti-toxin as soon as possible after the case has been diagnosed; but it is of no use if the patient is in a dying condition, or unlikely to live twelve hours, as the result is not immediate.

I cannot do better than quote some of the directions for the use of the diphtheritic anti-toxin, as circulated by the Lister Institute of Preventive Medicine, from which this invaluable remedy can be obtained.

'In cases of moderate severity, treated during the first three days of the disease, a dose of 2000 to 4000 units is sufficient. In more advanced cases, and in all severe cases, 8000 units should be injected, and the dose repeated if necessary.

'The serum should be introduced into the subcutaneous tissue of the abdominal wall. The syringe, both *before* and *after* use, should be thoroughly washed with cold water, and then boiled for five minutes.'

It is very important that the syringe should be carefully sterilized *each* time of using. The part where the injection is to be given is first painted with iodine. When the syringe

is withdrawn, a little collodion may be laid on the place where the injection has been given. The local swelling caused by the injection of the serum usually disappears in about a quarter of an hour.

The actual bulk of the injection varies with the strength of the serum. At the present time 2000 units of anti-toxin (Lister Institute of Preventive Medicine) are contained in 5 or 6 cubic centimetres of antitoxic serum, so that a regulation dose of 3000 antitoxic units would require 10 or 12 cubic centimetres of antitoxic serum.

Expressed in terms of the serum rather than of the contained anti-toxin, the first injection for children varies from 5 or 6 to 10 or 12 cubic centimetres, according to the age and severity of the case, and this is followed by one or more further injections, the number and quantity of the latter depending on the progress of the patient.

The temperature, pulse, and respiration are taken every four hours, but it is unusual for any change in these to follow the injection of anti-toxin.

Anti-toxin Rashers very frequently follow the injection
rashes. of anti-toxin. They sometimes appear within two or three days; sometimes they may occur after ten days or a fortnight has elapsed. The usual rash is urticarial and erythematous, but these rashers often resemble those of measles and scarlet fever. They are frequently accompanied by a rise of temperature. However, they lead to no further trouble than the immediate discomfort and inconvenience.

It is very important for Nurses to realize that the use of anti-toxin does not diminish the necessity for the same careful treatment and nursing of the case which was recognized as necessary before the anti-toxin remedy was discovered. The careful feeding, the local treatment of the mouth and throat, and, in short, all the details of which mention has already been made, are not less important than was formerly the case. But the great point is that the mortality of diphtheria has been enormously diminished since the introduction of anti-toxin, and the ordinary remedies can be followed up with much more hope and confidence of a successful result.

When attending cases of diphtheria, Nurses must be most careful to wash their hands and nails frequently and very thoroughly in a two per cent. solution of lysol. They must never take food in the patient's room, and be scrupulously careful to disinfect their hands the very last thing before taking a meal. In addition to the precaution before mentioned, of immediately applying a disinfectant to any part on which a particle of membrane may be coughed by the patient (see p. 247), I am desirous of emphasizing the importance of Nurses in attendance on these cases carefully washing out their mouths and gargling their throats very thoroughly for a few minutes night and morning. Any Nurses wearing artificial teeth should remove them before doing this. The teeth themselves must be very thoroughly cleansed before being replaced in the mouth. This precaution is invaluable as a protection from diphtheria, and is said not only to afford safety to Nurses themselves, but to diminish the risk of conveying the infection to others. It has been ascertained that persons who have been in contact with a case of diphtheria can convey the infection to others without suffering from the disease themselves.

CHAPTER XXIII *

Examination of the blood. THE blood contains red corpuscles, white corpuscles and plasma, and each of these may be altered in disease. Moreover the blood conveys to the tissues most noxious agents, whether they be living organisms or chemical poisons.

The *red corpuscles* number about 5,000,000 per cubic millimetre in a man, and 4,500,000 per cubic millimetre in a woman, and are counted by means of an instrument called the Thoma-Zeiss hæmocytometer. The percentage of *hæmoglobin* in the blood is measured by an instrument called a hæmoglobinometer. The percentage of hæmoglobin in a healthy person is taken as 100 per cent.

In chlorosis, the common form of anæmia in young women, the number of red blood cells is somewhat diminished, but the percentage of hæmoglobin is much diminished, so that each red corpuscle contains less than its normal amount of hæmoglobin. The administration of iron effects a cure in these cases. In pernicious anæmia, which mainly affects middle-aged people, the number of red blood cells is very markedly diminished, and less than 1,000,000 may be present in each cubic millimetre. This disease is due to a poison which destroys and breaks up the red blood cells, and the condition is a very serious and fatal one.

Anæmia and diminution of the number of the red cells follows loss of blood from acute hæmorrhage, but provided the hæmorrhage does not exceed half the total amount of

* The whole of this chapter has been kindly written by Dr. Theodore Thompson, Physician to the London Hospital.

blood, the plasma is quickly replaced by the body fluids, and the red cells and hæmoglobin are gradually restored to normal.

Chronic anæmia results from small repeated hæmorrhages, from lead poisoning, from various forms of septic poisoning such as bad teeth, gastro-enteritis and absorption from ulcerated surfaces on the skin or within the alimentary tract.

Increase in the number of red blood discs and hæmoglobin occurs at high altitudes in healthy persons. Pronounced cyanosis, such as is seen in congenital heart disease and other conditions, is often accompanied by great increase in the number of red cells, from 8 up to 12 million red cells per cubic millimetre being present.

The number of *leucocytes* or white blood cells is normally about 6000 per cubic millimetre. Of these white cells about three-quarters are cells with irregular shaped nucleus and a granular protoplasm, which does not stain well with either acid or basic dyes; they are called the common or neutrophile leucocytes. The next common form is the lymphocyte, a cell with a round nucleus and a non-granular protoplasm. Occurring in small numbers we have granular cells which stain pink with acid or eosin dyes called eosinophile leucocytes and cells which stain blue with basic dyes called basophile leucocytes.

Increase in the number of the white cells occurs in healthy persons after a meal, when the number may be doubled. In newly born children and also during pregnancy there is a slight increase in the number of white cells. Increase in the white cells or leucocytosis, as it is called, also occurs in certain diseases. A considerable increase up to 30 or 40 thousand per cubic millimetre in the common variety of leucocytes occurs in most of the acute infectious diseases such as pneumonia or scarlet fever. Typhoid fever is an exception, as in this case the number of white cells is diminished rather than increased. In septic poisoning, the neutrophile leucocytes may be increased, and the presence of an increase of white cells may be of help in the diagnosis of a deep-seated abscess. After severe loss of blood, the number

of white cells is often considerably increased. It is, however, in a group of diseases called leukæmias that the most striking increase in the number of white cells takes place. In one form, the spleno-medullary leukæmia, the spleen is greatly enlarged, and the patients suffer from weakness and anæmia. On examination of the blood the number of white cells is enormously increased, as many as two hundred thousand per cubic millimetre being present instead of the normal 6000. In this variety all the various kinds of white cells are found in largely increased numbers, and in addition large white cells called myelocytes, which do not occur in normal blood, are present.

In the other form, lymphatic leukæmia, it is the lymphocytes and non-granular cells that are increased, and in this case not only the spleen but also the lymphatic glands all over the body are much enlarged.

The *lymphocytes* in children under two years of age are present in slightly increased numbers.

The *eosinophile leucocytes* are increased in spleno-medullary leukæmia. In cases of intestinal worms they occur in the blood in increased numbers, and they are also found in asthma and certain skin diseases.

Micro-organisms can be found in the blood in many diseases. Anthrax bacilli, pneumococci, plague bacilli have all been found in the blood, while in septicæmia streptococci are present. Both typhoid and colon bacilli have been found in the blood.

Blood cultures. The method of finding these bacilli is to make a *blood culture*. About 10 c.c. of blood are withdrawn and placed in culture tubes which are then put in an incubator, and are examined in two or three days for signs of bacterial growth.

The poisons of micro-organisms are also found in the blood; for example, in diphtheria the blood contains diphtheria toxin, a soluble poison made by the diphtheria bacilli.

The body itself, when invaded by micro-organisms, produces *protective substances*. For example, in diphtheria a diphtheria antitoxin is formed in the blood plasma, and this neutralizes the poison of the diphtheria bacilli. This substance can be obtained from a horse, which has been

inoculated with small amounts of diphtheria bacilli, and can be injected into persons suffering from diphtheria to aid them in their fight against the disease.

Other protective substances are called *agglutinins*, and these occur in the blood serum. For example, in typhoid fever about the tenth day of the disease, the blood contains a substance which is capable of paralyzing the movement of live typhoid bacilli, and agglutinating them into little clumps. This is the basis of the Widal test for typhoid fever.

In tropical diseases various micro-organisms are found; for example, the malarial parasite which enters a red blood cell and develops within it. A freely swimming animal parasite, the typanosoma, is found in the blood in sleeping sickness, while in the tropical disease known as elephantiasis the embryo of a worm, the *filaria sanguinis hominis*, is sometimes found.

Blood pressure.

The pressure of blood within the arteries is measured by an instrument known as a sphygmomanometer. An air bag is placed round the arm and is distended with air to such a pressure that the pulse cannot be felt at the wrist. The pressure in the bag must then be equal to the blood pressure in the arteries, and it is measured by means of a mercurial manometer, and in normal persons this pressure is found to be equal to the weight of a column of mercury 120 millimetres high. As age increases the blood pressure rises slightly, and in a man of sixty years old it would be 145 millimetres of mercury.

The blood pressure is greatly increased in persons with thickened arteries or arterio-sclerosis, and when it rises to a certain height the blood vessels often burst. If this occurs in the nose, bleeding occurs and the patient is relieved for a time, but if it occurs in the brain, death from apoplexy or recovery with paralysis of one half of the body (hemiplegia) will follow.

In chronic kidney diseases (Bright's disease) the blood pressure is very high, and may reach 250 millimetres of mercury, and this great increase in blood pressure is often a help in the diagnosis of this complaint. In nervous

excitable persons the blood pressure is often higher than usual.

Great lowering of the blood pressure is found in Addison's disease, where the suprarenal glands are destroyed. Here the blood pressure may be as low as 65 millimetres of mercury, and it is in this disease that the lowest blood pressures are recorded. Here, again, the low blood pressure is of great assistance in making a diagnosis of this deeply-seated disease.

CHAPTER XXIV

Medical cases.

I DO not propose to go into details concerning the nursing of all medical cases, as to do so would involve much needless repetition. But there are one or two points concerning the nursing of some illnesses which it may be of service to mention.

Disinfection of sputum.

In diseases of the lungs, whether acute or chronic, it is the Nurse's duty to pay special attention to the disinfection of the sputum, and to do what lies in her power for the patient's comfort in regard to this matter. Some disinfectant must be placed in the spittoon, both *before* and *after* using, and the vessel must be frequently changed.

Occasionally the Doctor may desire to have some of the sputum reserved for inspection, without any disinfectant having been previously placed in the spittoon; but that will be the exception, and a disinfectant placed in the utensil, both before and after using, is the rule. In cases where the Doctor desires the sputum to be reserved without the addition of any disinfectant, a plentiful supply of disinfectant must be subsequently added.

A Nurse must remember that if some of the sputum containing tubercle bacilli gets dry on the side of the vessel, there is always the risk of infection being carried to any one inhaling it. There is no risk of tubercle bacillus spreading infection when the material containing it is in a moist condition.

The best disinfectant to employ for this purpose is a 10 per cent. solution of lysol. It is necessary to use a strong solution where the material that has to be penetrated is dense in texture. The tubercular sputum has to be thoroughly penetrated with the disinfectant that it may

come in contact with the tubercle bacillus, otherwise it will not be effectually destroyed.

Disposal of sputum. When the spittoon has been removed from the patient, if it is possible to dispose of the contents by burning, the vessel should be filled up with sawdust, or fine coal dust, if sawdust is not at hand. In this way the sputum is made sufficiently solid to burn satisfactorily. When this cannot be done, the vessel must be filled up with a fresh supply of lysol, and allowed to stand, covered, for some little time, in order that the sputum may be thoroughly disinfected before it is thrown away.

If lysol is not available, or if any other disinfectant is ordered by the Doctor, the Nurse will, of course, carry out his instructions, remembering to employ a strong solution of the disinfectant ordered, to use it in sufficient quantity, and to allow it to remain in contact with the sputum sufficient time.

Private Nurses will find that some patients cannot accustom themselves to a spittoon, and sometimes they grow too weak to use one without too great an effort. If the patient prefers using pocket-handkerchiefs for this purpose, a Nurse must be careful to change them frequently, and to place them immediately they are finished with in a covered vessel containing some strong disinfectant. They should be left soaking for some hours before being washed and boiled. If expense is no object, and a plentiful supply of rags can be secured, one advantage of a patient using these instead of a spittoon is that they *can* be immediately burnt, and thus all risk of spreading infection through tubercular sputum is effectually prevented.

Vomiting. When patients vomit, a Nurse should always give them the chance of washing out their mouths with a little water, if they desire to do so. It is often a relief if the Nurse places her hand firmly on the patient's forehead when the vomiting occurs, more especially if the patient is a child. Some patients like to have their faces soothingly sponged afterwards for a minute or two, to make them feel fresh again, and to help the disagreeable feeling of having 'been sick' to pass off. There is no hard-and-fast rule applicable to such occasions, but a Nurse

must use her own judgment, and see how much or how little attention is likely to help the patient best.

Restlessness. Experienced Nurses will not fail to remember what an important symptom restlessness is in very many diseases. It is a

symptom which cannot be wisely ignored, no matter to what cause it may be due. Even if the patient's condition is not serious enough to cause alarm, intense restlessness makes the patient *feel* most miserable, and it is, therefore, a symptom that a Nurse should never fail to notice, and one which she must do her utmost to relieve. Restlessness may be due to causes well within the Nurse's control—an uncomfortable bed, too heavy bedding, a badly ventilated room, the need for food, or, apart from serious physical causes, restlessness may be due to the patient's mental condition. An observant, sympathetic Nurse will take pains to ascertain the cause, in order to do what lies in her power to remedy it.

It is impossible to define precisely how restlessness is to be relieved, and how many patients of varied temperaments, and suffering from various diseases, can be helped to gain that restfulness *in their feeling* which is an invaluable help in promoting their recovery. Nurses who are 'born' as well as 'made' will solve this problem for themselves, finding the answer very different with different patients. I only wish to impress upon all Trained Nurses that this is a very important part of their duty. It will be a serious matter for their unfortunate patients if they fail in this respect, even if their work and conduct give no technical cause for complaint.

Every patient must be guided to rest according to his temperament. It is for the Nurse to discover the nearest approach to rest which her patient's condition and circumstances render possible.

Most Nurses who feel an interest in their work can be relied upon for efficient and skilful service in nursing an acute case. There is something which stimulates their best efforts in the urgency of the symptoms with which they have to deal. They are, as it were, in the midst of the battle, and they know that the final issue may in considerable measure

depend upon the way in which they, individually, carry out the Doctor's orders. There is very often the hope, too, that recovery from a sharp attack of illness may be complete, and that they will not only have the satisfaction of bringing the patient through, but the hope that, in a little time, he may regain his normal condition of health and strength.

Chronic cases. But I have found, to my regret, not only that many excellent Nurses are less interested in chronic cases—that, perhaps, is only natural, unless they happen to have a personal regard for the patient,—but that they are distinctly wanting in patience and tenderness towards them. Because the symptoms are not urgent, they are sometimes inclined to do less than is possible for their relief, and I would specially warn all conscientious Nurses against this tendency. Many who pride themselves on being, and who may justly be termed, ‘smart surgical Nurses,’ fail very much in nurse-like qualities when the patient is out of danger, and suffering from the effects of the physical and mental shock which the operation has probably been to him. At this stage, the ‘interesting case,’ of which Doctors and Nurses are justly proud, often becomes fidgety and irritable, and I am afraid that a similar reaction from the recent anxiety sometimes sets in with the Nurses also. They seem unable to appreciate what the weariness of convalescence too often means to a patient recovering from severe illness. They forget the monotony of being shut up in one room for many days or weeks, and ignore the fact that the patient is greatly dependent upon any freshness which the Nurse can create in his surroundings, or manage to bring in with her own personality. It is sometimes the only aid which the patient has to forget his present weariness and to enable him to look forward cheerfully to complete recovery. When patients are hopefully looking forward to getting about again, and are wisely prevented by the Doctor from expending any of the returning strength which they are slowly gathering up, they sometimes *feel* comparatively well, and, while they are taking absolutely no exertion, they believe themselves to be capable of doing a great deal. But, when the time comes for the Doctor to give his consent for a patient to get up and

lie on a sofa, or to sit in a comfortable chair, the chances are that he will be disappointed, if not actually discouraged, to find how much way he still has to make up before reaching his normal standard of health again. It is at times like these, when patients need a little kindly encouragement to struggle against their weakness and depression, that a Nurse can be of the greatest comfort to them by letting them feel that she quite understands the little ordeal they are going through, and is yet able to take a cheerful view of the near future. It is always useful to warn a patient that he will feel weak and giddy when he first gets out of bed, or out-of-doors, after a long illness.

It is wonderful how much a Nurse can do, not only to brighten, but to shorten the tedious period of convalescence. But this can only be if she is a *real* Nurse, able to enter into her patient's feelings at this stage of his illness, and cheerfully determined to do her utmost to help him through it. Before this stage is reached, a capable Nurse will have learnt to understand her patient thoroughly, and she will be the first to perceive when he is becoming mentally wearied, or physically exhausted by his visitors, or by any other little recreation he has hoped to enjoy.

Nurses must keep a careful watch on themselves. Many women have small mannerisms, which, when once noticed by an invalid, often annoy him unreasonably. If a Nurse notices that her presence irritates, her best course of action is to absent herself as much as she can consistently with her duty, and to talk as little as possible. She must take care that such change of conduct cannot possibly be attributed to 'injured feelings.'

After severe illness the patient's condition is very variable. He may be able to do—in small ways—twice as much one day as he feels it possible to do the next, and a judicious Nurse will soon know how far it is safe to be guided by her patient's feeling in such matters. As a rule, the patient's feeling is a very good guide indeed, and one that, under the Doctor's direction, may safely be followed. There are some patients so eager to get well that if the Nurse did not exercise judicious restraint over their inclinations, they would be thrown back again by attempting to do too much.

On the other hand, some patients are listless, and need very active encouragement to make the necessary efforts.

**Sympathy
with
chronic
cases.**

This same care and judgment need to be exercised in chronic illnesses, which are not the easier to bear because they *are* chronic—rather the reverse! Any Nurse who is temporarily or permanently in charge of a chronic case must carefully endeavour to realize the patient's point of view. Sometimes the disease from which the patient is suffering may involve sharp attacks of pain, with intervals between of comparative immunity from suffering. A Trained Nurse will, of course, apply the remedies which the Doctor has prescribed for such occasions. But, when this has been done, she must not forget that much of her value to the individual patient will depend upon how far she is able '*to help his feeling in bearing it.*'

Sometimes a chronic illness is characterized by increasing weakness and failing physical power, manifested in various distressing ways. Such a condition cannot but have a very depressing effect upon the patient, who *dreads*, if he does not actually *know*, that there is no reasonable hope of improved health for him. In such conditions a Nurse can do a great deal to lessen the misery of this growing helplessness.

Some Nurses have a thoughtless habit of placing things that the patient may want just out of the patient's reach. A little carelessness of this sort makes the patient realize his weakness the more keenly. He may, of course, know his condition quite well, but the little incident of not being able to put his hands upon something he wishes for, because it is '*just out of his reach,*' brings his weakness the more keenly home to him for the moment. I have seen the eyes of a patient fill with tears after a vain endeavour to find a pocket-handkerchief, which had only been '*lost in the bed*'—and this in a brave man habitually bearing pain and his distressing condition with praiseworthy cheerfulness! I mention a trivial incident of this sort because it is so difficult for those who are well and strong—especially if they have no personal experience of illness—to know the real misery which trifles of this kind can cause those who are

no longer able to help themselves, or to be sufficiently in contact with the outside world to rise above little trials of this kind without giving them a second thought.

It is not only the knowledge of how to apply remedies skilfully which makes a Nurse of value in a chronic case, but she must remember that the mere fact of trying a remedy is of some service, if only by distracting the patient's attention from the sense of weary suffering.

The simple action of sponging the patient with hot water, or of bathing the limbs with hot water, as the case may be, often gives immense relief for a time. The sponging can be repeated again and again if necessary. The relief is not less because the remedy is simple, and no Nurse will feel that she can take too much trouble if there is a chance that what she is doing will be of some little help to her patient.

To quote the late Dr. Sutton :—

‘ This use of hot water is in a way imitating summer. Then, if you can only make things a little more bright—put a little spring in with your hot water—a little hope—much will be gained. . . . Never underrate the effect of your own personality. . . . Our view should be to make man fresh.’

A change of position may make a weary patient's condition much more bearable for a few minutes, and then the same weariness returns, and some other change must be made, in order that the temporary feeling of relief may be renewed.

A true Nurse can do wonders in helping weary patients through difficult days and nights by simple attention to such points as these. Gratitude may not be expressed in words, but there is no greater reward for a Nurse than to see her efforts induce sleep or restfulness when, in their condition of chronic suffering, patients have almost forgotten what ‘ *ease in feeling* ’ means.

Some excellent Nurses fail in points like these because they do not appreciate their importance, but the *best* Nurses never fail to realize what scope for tender ministrations to suffering many sad, ‘ uninteresting ’ cases afford.

It is my earnest desire that all Nurses should become skilful and proficient in the discharge of every technical duty

which can fall to their share ; but, if they are to find lasting satisfaction in their work, and if it is to bring a blessing on themselves and others, they must take unwearied pains to cultivate, *and to retain* those nursing qualities which alone can give permanent success in their chosen work.

‘ Ask God to give thee skill in comfort’s art,
That thou mayst consecrated be, and set apart
Unto a life of sympathy ;
For heavy is the weight of woe in every heart,
And comforters of Christ-like touch are needed much.’

CHAPTER XXV

Children. THE nursing of children requires special care, special training, and special study. It needs infinitely more knowledge, more skill, more observation, and more patience to become a really good children's Nurse than it does to attain an average amount of efficiency in nursing adult patients.

It is essential for Nurses to recognize that when they enter a children's ward, they find themselves in a new world, of which the inhabitants are 'little people,' with a different language, different manners, different feelings, and different thoughts. To nurse these little patients well, it is absolutely necessary to understand them and their ways. It is quite useless for any woman who does not care for children, or who gets impatient with them, to attempt to be a Nurse to children.

The difference that exists between the characters and ideas of adults and children is very, very great—as great, in fact, as the difference in the size of their bodies. This is a fact that Nurses must never lose sight of when they are tending sick children. We have often heard and read the familiar words, 'When I was a child, I *spake* as a child, I *understood* as a child, I *thought* as a child,' and yet we too often fail to remember the practical truth contained in this statement. In the course of natural development, a grown-up person has 'put away childish things.'

Most Nurses, and especially our London Hospital Nurses, have experienced the difficulty of nursing a foreigner, who speaks a language they do not understand, so that the Nurse has the anxiety of trying, sometimes in vain, to find out what his wants are. But difficult as it undoubtedly is to make the poor patient perfectly happy under such circumstances, the

reasoning power of an adult makes it easier for him than for a child to make his wishes known. The case of the sick little ones, with a Nurse who is ignorant of their ways, or who is not watchful, because not sympathetic, is far more distressing. Children under such circumstances are helpless indeed—touchingly helpless !

George Eliot has happily said—

‘ Children, like the birds and beasts, have often an overflowing abundance of language, but it is language which is wholly inadequate to express the blind longings and aspirations, the wounded ambitions, the moral perplexities, the hungry craving for boundless love, with which many a sensitive child is burdened. In this deepest sense, childhood is always more or less dumb, even when most noisy and talkative. She who would understand a child must not only listen for his words, which indeed are often somewhat futile, but must learn to read the unwritten speech of eyes and hands, and feel and watch with observant sympathy, not only the tears and smiles, but the gay caresses and appealing gestures and quick blushes, which it is possible to ignore or misinterpret.’

Children live in the present—this is universally a characteristic of childhood. The capacity for ‘ looking before and after ’ is reserved for later years. Nurses must never forget this. It will help them much in their endeavours to understand children. Victor Hugo, who has depicted some of the most tragic scenes which have ever happened in this world, and painted the miseries that men and women suffer in powerful colours, says positively that there is no misery like the misery of children. This is perfectly true, for the joys and sorrows of childhood fill the whole of their little minds and hearts. They are as intense as they are transient, and every one knows how quickly childish griefs are forgotten. Children’s brains, children’s ideas, children’s thoughts and ways, are not as a rule sufficiently studied. We do not half recognize the struggle that the tiny creatures go through. How they strive to grasp matters far beyond their reach, and puzzle their little brains to comprehend what goes on around them, and beyond. It is a great mistake to suppose that children do not think. It is true

that they do not think and reason *as* we do, but we have no conception how much they understand. The complete faith and trust of childhood, the yearning for love and affection, are the most beautiful things with which we ever come in contact. It always remains true that 'of such is the kingdom of heaven.' Grown-up people lose much if they shut their eyes to it. It cannot be denied that if we could have retained that perfect faith in truth which was ours in childhood, our daily lives would be more earnest, nobler, higher than they are.

Few women can go through life without occasionally finding themselves deeply thankful for every item of knowledge they may possess concerning the management of sick children. Circumstances constantly occur which cause women who are ignorant of such matters bitterly to deplore it. The love for children, which fortunately characterizes the large majority of women, and the indefinable qualities belonging to what we term the 'born Nurse,' are merely different manifestations of the same instinct. Real Nurses know how to 'mother' their patients, and children will naturally turn for sympathy to those who have this faculty. 'Mothers *is* for headaches' is the child's view—so happily expressed in these words, by the delightful little person familiar to all readers of Miss Alcott's popular story, 'Little Women.' If those whose duty it is to nurse sick children have merely technical knowledge, and no notion of 'mothering' them, their lot is much to be deplored.

But, although maternal instincts are very real, very true, very beautiful—and I would not say one word that could be interpreted slightly of them—we may be very sure that they cannot supply, or take the place of definite knowledge concerning the proper treatment of children. One day or night in the children's ward will convince any Nurse of this. It is grievous to think how many children of the whole number at any one time in the wards have been qualified for admission there only by the lamentable ignorance—not to speak of the carelessness and neglect—of those who are responsible for their welfare. It is impossible to say how far the terribly high mortality of infants and children in this country is directly traceable to the ignorance which prevails

concerning the physical needs of children. It is the plain duty of women, and still more of those women who are Nurses, to interest themselves in all that concerns the welfare of little children.

Nurses are entrusted with the task of guarding the lives of the little ones from the beginning. Nurses, who are constantly coming in contact with the pitiable specimens of humanity which find their way into the wards of a hospital, cannot fail to see for themselves the disease and suffering and misery which may result from ignorant or neglectful treatment in childhood. They scarcely need to be told of the ruined lives of those men and women who have been the unhappy victims of such neglect.

Physiological difference between children and adults. Children differ from adults in their physiological condition. They are *growing*, and this means a great deal. Their course of life and growth may be, and often is, interfered with by external circumstances, and imperfections of various kinds are set up in the growing child which cannot be remedied in after years. The bent legs so often occurring in children are mainly the results of the imperfect and unsuitable diet so frequently given in infancy and childhood. An adult, however unsuitable his diet, would not get bowed legs in consequence.

It must be remembered that the *vitality* of children is greater than that of adults, though, of course, there are certain fatal diseases characteristic of infancy and childhood. Diseases in children run extremely rapid courses, and in many cases Nurses will find that the child has either improved or passed away in an almost incredibly short space of time. On the one hand, it is noticeable that they struggle through illnesses that would apparently be fatal to an adult; and, on the other hand, it will be found that the thread which binds a child to life is very slender, and will break almost before those watching over it have time to realize that there is any danger of losing the little patient.

As the organs of children are in a distinctly different physiological condition from those of adults, it is not difficult to understand why nourishment must be supplied to them in such a form as to enable them to digest it.

Injudicious feeding is the cause of a large proportion of the diseases of infants. Deplorable ignorance prevails, more especially among mothers in the poorer class of life—though this ignorance is by no means confined to them—as to the kind, the quantity, and the regularity of the feeding necessary.

How I wish any words of mine could stimulate women who have leisure and opportunity to give some ‘lessons in motherhood’ to these poor young East End mothers!

During the first few weeks of their lives children should be fed about eight or nine times in the twenty-four hours. As the child grows to be a few months old this number should be reduced to about four or five times in the twenty-four hours. A Nurse must be careful to accustom the child to take its nourishment regularly. Infants suffer exceedingly from flatulency, and this suffering is materially increased either by over-feeding or too frequent feeding, or from keeping them too long without food.

Some thoughtless mothers and Nurses get into the habit of supplying the child with food every time it cries. The chances are that the baby is crying from pain which a fresh supply of food would only increase, whereas gently rubbing the child’s abdomen—especially if the Nurse sits with it on her lap before the fire—will frequently soothe the little creature, and help to dispel its constant source of discomfort—wind.

Of course, children *do* cry because they are hungry—crying is their only means of making their wants known—but it is absurd and idle to imagine that children are always hungry because they cry.

Nurses will find it difficult to persuade mothers to give up the stupid and somewhat mischievous custom of giving children what is known as a ‘baby’s comforter’ (*i.e.* a dummy teat) to suck. If the child is really hungry it is irritating and disappointing for it to suck a dummy teat. If the teat is perforated it is especially mischievous, as it causes flatulency, and in such cases it must be abolished at once.

In the great majority of cases the new-born infant does not need any nourishment before the mother’s milk naturally comes. The late Dr. Sutton says—

'Every age of life is characterized by systematic interference. . . . The mouth of the new-born child is stuffed with sugar and butter, its abdomen is cramped, and its legs are not allowed to kick. It has indeed come on to the 'stage of fools.' As soon as ever the new mucous membranes begin to absorb, we meet with thrush and stomatitis, due to foolish ways of feeding. The child's functional activity increases. We keep it swathed in clothes, and do not allow it to go out unless we think it is a fine day. When we send it out we put it into a horrid machine. Then we are told that it is always getting cold and diarrhoea, and that it sweats and throws off the clothes at night—it has rickets. . . . It is the abuse of natural function—extreme abuse, and the restraining, the hindering, and the interfering, that bring about disease.'

Perfect food for an infant must contain *all* the substances needed to support life, to supply waste, and to provide materials for growth. The food given must contain these substances in exactly the right proportions, and in the form best adapted to the digestive powers of the infant. If the infant is deprived of its natural sustenance, and the mother's milk has either to be supplemented or entirely replaced by other means, the food supplied must have as nearly as possible the exact qualities of a mother's milk.

Quantity of food for children. If a Nurse has to bring up an infant 'by hand,' as it is called, the quantity of milk considered desirable for the second day is about a quarter of a pint. The first day the baby should be given scarcely anything. (By 'day' I mean in this case the twenty-four hours.) The third day the baby takes about two-thirds of a pint, the fourth and fifth days about one pint, and from this the food should be gradually increased, so that by the time the child is six months old it is usually taking about two pints of milk in the twenty-four hours.

Temperature of infants' food. It is important to remember that if an infant has to be brought up 'by hand,' the food must always be given at the same temperature, *i.e.* at about 98° or 99° Fahr.; and another point to which I should call attention is the desirability of keeping the child as far as

possible in a semi-upright position while it is being fed. Nature is the best guide in such matters, and the position that the child would be placed in to receive its natural nourishment at the mother's breast is the one that will best facilitate digestion.

It frequently happens that the milk is rendered more suited to the infant's powers of digestion if it is mixed with equal parts of barley-water slightly sweetened, or lime-water instead of water. There is no universal law on the subject, but a Nurse must note whether the milk she is giving appears too heavy for the child, and must do her best to adapt the food to its special needs. The mixture must be sterilized, and allowed to cool down to the required temperature.

Skimmed milk, or milk from which the cream has been separated, must never be used for infants. It does not contain sufficient nourishment.

Up to the age of six weeks about four tablespoonfuls of food should be placed in the feeding-bottle each time it is used. The infant must not be fed oftener than every two hours during the day, and every four hours during the night. After six weeks the proportion of milk and the water—or whatever else is used to dilute the milk—must be given in equal quantities. The amount given at each 'feed' may be gradually increased until eight tablespoonfuls are put into each bottle, and, at the same time, there must be a longer interval between the meals given.

Up to the age of six months no other food than milk should be given without Doctor's orders.

After six months the strength of the milk may be increased until two pints of cow's milk are mixed with one pint of water. About eight tablespoonfuls should still be given at each meal.

The following table with such variations as circumstances may indicate is found a useful guide for the feeding of a healthy infant :—

| Age of child. | Milk. | Water or barley water. | Total amount to be given at each meal. |
|--------------------|--------------|---------------------------|---|
| During— | Tablespoons. | Tablespoons. | Tablespoons. |
| First fortnight . | 1 | 2 | 3 |
| Second fortnight . | 2 | 3 | 5 |
| Second month . | 3 | 3 | 6 |
| Third month . | 4 | 4 | 8 |
| Fourth month . | 5 | 4 | 9 |
| Fifth month . | 6 | 4 | 10 |
| Sixth month . | 8 | 4 | 12 |
| Seventh month . | 9 | 4 | 13 |
| Eighth month . | 10 | 4 | 14 |
| Ninth month . | 12 | 4 | 16 |

Feeding-bottles. Feeding-bottles require constant attention from the Nurse. Whenever possible two should be kept in use for one child, to be given alternately. They must be carefully washed, first in cold water, and then in hot water, to which some soda has been added, *after each time of using*. Afterwards they must be thoroughly rinsed, and kept in cold clean water until needed for use again.

The old-fashioned boat-shaped bottle, with a simple teat over its mouth, is far preferable to any other. All feeding bottles with long india-rubber tubes are to be avoided; the milk in them frequently and certainly becomes sour.

A Nurse cannot be too particular that every part of the feeding-bottle is absolutely sweet and clean. It is not enough for a Nurse to examine it carelessly, and, after a hurried glance or smell, think—‘There is not much wrong with it; it will do for this once!’ Let me add, with all the emphasis I can, ‘If there is *anything* wrong with it, *it will not do at all!*’

The feeding-bottle must be cleansed as quickly as possible after the child has finished with it. Nurses must remember that it is easier to prevent its getting into a sour condition, than it is to get it nice again when it has become sour. The cleanliness of the feeding-bottle is one of the most important points a Nurse has to attend to when bringing up a child ‘by hand.’

A Nurse must always remember to take the bottle away from an infant directly it is emptied, and not to allow the baby to lie sucking in wind when the supply of nourishment is exhausted. Many mothers are extremely careless in this respect, and the babies suffer accordingly.

These are only very general directions for the feeding of infants, and a Nurse will find that they will probably have to be modified in nearly every instance, and adapted to the needs of the individual case.

If cow's milk cannot be retained after it has been diluted in various proportions of water, barley-water, or lime-water, other preparations of humanized milk, etc., must be tried under medical directions.

If the nourishment given is too heavy for the digestive powers of the infant, it will certainly be vomited; but a Nurse must not hastily jump at the conclusion that the food given is too heavy *because* the child vomits. Babies vomit very readily, without the least effort or distress, and from various causes—such as wind, acidity, etc. It is by no means a serious matter for infants to vomit, unless it occurs in such a way as to make it obvious that the food given is unsuitable, or unless it occurs so frequently and so soon after food has been given as to give rise to the fear that the child is not retaining sufficient nourishment. An abrupt change of posture immediately after the child's meal will frequently cause the infant to vomit what it would otherwise have retained.

Little babies should never be tossed up and down in the foolish manner so frequently seen. The rapid motion *may* cause them to leave off crying, because it momentarily dazes them, but this unnatural proceeding is very ill-adapted to a baby's condition and needs. When children grow a little older they love climbing up and being helped to jump about, but that is a different matter.

Humanized milk. A simple plan of rendering cow's milk more digestible for infants is to divide a pint of milk into equal parts. One portion must be warmed to the temperature of about 98° Fahr., and a small quantity of rennet added to separate the curds from the whey. The whey must then be added to the other half of

the milk, as well as a large teaspoonful of cream, and a little cane sugar or sugar of milk. Milk thus prepared would need to be warmed and diluted in the way just described in proportion to the age of the child. This is the nearest approach to human milk that can be provided, apart from the more scientific and expensive preparations.

Weaning. In ordinary circumstances, weaning should take place at the age of nine months, but there can be no hard and fast rule on a matter of this kind, which necessarily varies for many reasons in different cases. But Nurses attending poor mothers, who are apt for various reasons to nurse their children too long, should remind them what a very unwholesome and undesirable proceeding this is, both for mother and child.

Condensed milk and peptonized milk will sometimes suit the infant's digestive powers when other things fail, but their effect on the general nourishment and condition of the child must be carefully noted under medical guidance, and any directions given must, of course, be accurately carried out.

There are innumerable 'foods for infants' recommended and sold in all directions, but the drawback in nearly every one of them is that they contain *starch*—a material that very young children are unable to digest. Such foods are not only useless, but, in different degrees, positively harmful.

All Nurses should be aware that the juices needed to digest starch—*i.e.* saliva and pancreatic juices—during the early months of infancy have no power of acting on it. The child may just as well be fed on so much sand as far as nourishment from any starchy food is concerned. The starch particles are undigested, and set up processes of fermentation and irritation in the alimentary canal, and so do a great deal of harm, and cause unnecessary suffering. The chief starchy foods that ignorant mothers press on children are bread, biscuits, potatoes, arrowroot, corn-flour, etc.

Of late years, however, there are various kinds of 'infant foods' sold which consist largely of starch so prepared as to be rendered soluble and digestible by the processes to which it is subjected. Mellin's, Allen & Hanbury's, Savory &

Moore's, and others too numerous to mention, are of this class. Some Doctors consider, after the first three months, that these foods are in many cases a useful addition to the infant's diet; but no food can ever be a really good substitute for milk.

The appearance of the first teeth is Nature's indication that other food besides milk is needed. Boiled bread beaten up in milk, Robb's biscuits, rusks, and possibly by this time a little arrowroot may be given with advantage. Then, as the child grows and its digestive powers develop, a boiled egg, with bread-and-butter, milk-puddings, and other light articles of diet may be given. Some Doctors order a piece of raw beef-steak to be given to a child to suck.

It must be remembered that the fact of a child taking whatever is given to it is not the slightest proof that it is good for it, as many mothers thoughtlessly imagine. How often have Nurses heard in the wards, and in the out-patient department of the hospital, in reply to the Doctor's question of 'How do you feed it?' the familiar answer, 'It has a bit of what we has ourselves'! Further inquiries will elicit the fact that probably a bit of bacon, of meat, cheese, fish, or plum-pudding forms a considerable part of the unwholesome diet cheerfully given by these well-meaning mothers to the poor little creatures entrusted to their care. We cannot justly blame these poor mothers for ignorance which, perhaps, they have never had a chance of remedying. But, if Nurses will keep in their minds the wholly different physiological condition of a young, growing child to that of a full-grown adult, they will have no difficulty in understanding how it is that children fed in the manner just described may be positively starving for want of the kind of food which they can digest. As I have already pointed out, the active principle in the saliva which turns starch into sugar does not exist in the saliva of a young child.

Nurses should endeavour to make the mothers understand that infants are necessarily starved on the kind of diet adapted to grown-up people. It is the clear duty of Nurses to take unwearied trouble to convince these poor women of facts which are of such importance to the young children entrusted to their care—the future women and

men of our great city. In many instances the results will doubtless be discouraging, but in others some good will be done.

Nurses have exceptional opportunities for spreading useful knowledge on these matters, which are of vital importance to the health and happiness of the children, and they must never fail to make the most of them. If they are disappointed that their efforts have borne no fruit in one case after another, they will, I know, still persevere in fresh directions if they fully realize the cruel effect of this ignorance on the health of the community. Suffering inevitably follows, either in the way of bringing about speedily fatal results, or in creating ills which nothing can remove in after-life.

**Average
weight of
infants at
birth.**

Nurses may be expected to know that the average weight at birth of a male infant is estimated to be seven pounds eleven ounces ; of a female infant, seven pounds four ounces.

Teeth.

The first set of teeth with which Nature supplies us are called milk teeth, and are twenty in number—ten in each jaw. The second set, which replace these later on, and are called permanent teeth, number thirty-two—sixteen in each jaw. The first teeth we expect are the two central incisors—usually these appear in the sixth or seventh month ; two lateral incisors, about the eighth or ninth month ; two canines do not appear until about the eighteenth month ; but two molars appear from the ninth to the twelfth month ; and the other two molars about the twenty-fourth month.

After five years children generally begin to lose these teeth, and they are gradually replaced by the permanent set. Most children suffer a good deal during teething, and are very fretful and restless with the pain.

‘Teething powders’ and ‘soothing syrups’ must be avoided. Some of these, unhappily, contain opium, and are successful because they ‘keep the baby quiet.’

Attacks of convulsions sometimes occur during teething. This is always rather an anxious time for those who have the care of babies.

As a general rule, it may be told to mothers by way of

comfort, that, though there are exceptions, children do not generally take measles or other diseases incidental to childhood until after they have reached their first or second year.

Importance of keeping children clean. It is scarcely possible to exaggerate the importance of keeping children thoroughly clean. Not only would many forms of skin disease be far less rife if scrupulous cleanliness were insisted upon ; but no drugs, nor even

good feeding and pure air, can supply the place of it. Keeping children clean materially assists them to be happy and good. Whether they enjoy the washing process or not depends mainly upon the good management of the Nurse ; but, in any case, the child will feel better for it afterwards. Whenever possible, a morning bath, given at about the same temperature as the child's body, is very desirable. The child must not be allowed to remain too long in the water, but must be thoroughly dried and wrapped up, to prevent chill.

Some children are frightened at the mere idea of a bath. This is generally the result of bad management. A great part of the good to be derived from a bath would be prevented by any shock or fright. Every care must be taken to induce a child to love its bath. Sometimes it is the sight of the water which terrifies the child. In such cases it is best to cover the bath with a blanket, to sit the child on the blanket, and to let it sink into the water by degrees. If these means are patiently adopted, a timid child will grow half interested in watching the water come through the blanket, and be spared all alarm at the process. It indicates tact and good management on the part of a Nurse when the little children under her care enjoy their baths. But sick children are often fretful, and need to be humoured. Some children have very delicate skins, or are very ticklish, and dread the rubbing necessary to dry them. It is a good plan to give them an extra towel and let them think they are helping to dry themselves, as this distracts their attention while the Nurse finishes the distasteful process as quickly as she can.

If a Nurse finds herself in temporary charge of spoilt children, who do not habitually enjoy their ablutions, she must not be disheartened, but make the best of

circumstances, and endeavour to bring about a better state of affairs by degrees.

Washing sick and injured children. With sick and injured children baths are often out of the question. These little patients have, therefore, to be thoroughly washed instead.

A separate towel, separate flannel or piece of lint, and separate water for each patient, must be a rule without an exception in a children's ward.

It is much better for little children to be washed on a Nurse's lap, near the fire. But, if the nature of the child's illness or injury makes this position unsuitable, the best plan is to fill a large water-pillow with warm water, and place it on a table. The little one can then be laid on a blanket placed over this, and the Nurse can have the necessary materials for washing the child conveniently at hand. It is less fatiguing for the Nurse than stooping over, or kneeling down beside the child's cot. There is no risk of chill, for the little patient can easily be put back into bed again, or may, perhaps, be allowed to lie on a blanket and mattress before the fire while the cot is being made.

It is important to guard against chill in washing little children, for they cannot afford to lose heat, and it must be well maintained by warmth in their immediate surroundings. It is a good plan to give them a drink of warm milk, and a biscuit or some bread-and-butter—if their physical condition admits of this—after they are washed. This generally makes their happiness complete, and if they are not in pain, they will usually fall asleep again for a little while, whatever time of the day or night this process of washing may have to be performed.

Cleanliness of children's splints and surgical dressings. It is sometimes very difficult to keep the splints and surgical dressings of children in a clean condition. There are so many difficulties. The padding of a splint has to be covered with waterproof material, to keep any moisture from soaking in. Inexperienced Nurses have no idea how rapidly lice generate in splint-pads, especially when assisted by this covering of waterproof material. Box-splints are a great help to a Nurse in maintaining

cleanliness, for they enable her to turn the little patient round on his face, and the constrained position can be somewhat relieved occasionally, without too much risk of movement of the part which has to be kept at rest.

Every trained Nurse will realize the importance of changing draw-sheets and napkins *directly they are soiled*, no matter how often the necessity may arise. The child must be thoroughly washed and dried, and the parts dusted with starch or zinc powder on each occasion. This is the only chance of avoiding sores, and a Nurse cannot take too much pains to prevent a chafed and abraded skin. Poor little children suffer much unnecessary misery from neglect in this respect.

If the napkin has been soiled with urine, it must be washed before using again, and not merely dried, which is a dirty and pernicious habit some Nurses adopt to save themselves trouble.

It is important that no soda should ever be used for washing napkins. It is apt to give rise to a troublesome eczema. Should any symptom of irritation of the skin occur, inquiry must be immediately made as to what materials are being used for washing the napkins.

Please let every woman who is a Nurse to children remember that a child has not committed a crime if it has wetted its bed. How often have I heard children—mere babies—called ‘nasty, dirty little things’ for this absolutely uncontrollable weakness.

It is often difficult, even when a Nurse has done her best, always to have her little patients in a perfectly clean condition at the moment when she specially desires them to be so for the Doctor’s inspection. But it is evident to experienced eyes if the little accident has been recent, or if any neglect has taken place. Although a Nurse may be discouraged by an occasional disappointment after she *has* done her best, if she is unwearied in her efforts always to pay special attention to each little child in this respect *immediately the necessity arises*, the results on the whole will be successful. Nothing but constant attention to this point night and day can possibly keep the atmosphere of a children’s ward fresh and pleasant.

Many little hospital patients have been badly educated in habits of cleanliness. Nurses may do a great deal for them, and save themselves trouble by judicious management. Whenever possible, it is an excellent plan to place each child on the necessary utensil—which must be absolutely clean in each instance—early in the morning and after each meal. Nurses must persevere in doing this, even if they do not meet with success in the first instance. Usually after children wake up from a sleep this need should be anticipated. Nurses must encourage the children to ask for what they want, and praise and recognize their little efforts to be good in this respect. This method will obviate the necessity of constant scolding, and be far more effectual.

Children *are* very troublesome, there is no denying the fact. Their little wants are endless, and when a Nurse has many under her care, all crying and wanting things at once—as must occasionally happen in a children's ward—the most devoted lover of children may be forgiven for *feeling* momentarily wearied and impatient with them, though not, perhaps, for *showing* it. The self-control which some Nurses exhibit under worrying circumstances is truly admirable, and their example should be earnestly followed by others who are anxious to excel with children.

It is a matter of common experience that many Nurses, who subsequently become devoted to the little ones, find children's wards very trying when they first begin working there. This is partly owing to the constant attention children claim, and partly to the noise which the little people rejoice in, as well as to the occasional crying, to which Nurses speedily become accustomed, but which is perplexing at first. Women who are under the impression that they do not care much for children, soon feel, if they have any innate gift for Nursing, the influence of the special charm which a children's ward possesses. Many who are not familiar with the conditions of hospital life are apt to think that it will make things easier for them if they are sent first to the children's ward; this is not the case.

The third essential to the well-being of children, after suitable diet and cleanliness, is plenty of warmth, light, and fresh air. Warmth and sunlight are a necessity for children.

If they are deprived of them to any great extent, they die. It is, unfortunately, a not unheard-of thing for cold to be the active agent in killing some of the poor neglected little creatures in our overcrowded cities. A certain amount of external warmth is essential, and children do not possess sufficient vitality to do without it. I mean that, in proportion, children are infinitely more sensitive to cold than adults. Acute chest attacks are far more fatal to children than to grown-up people. Children, with their sensitive natures, bear shock very badly, and many cases of injury and accident are fatal from this cause.

Nurses will observe that children bear confinement to bed and suppurating wounds wonderfully well as compared with adults, whereas they suffer more in proportion from any loss of blood.

Children cannot flourish without *light*. It is the want of light and fresh air which stunts their growth, and has no small share in producing the pallid little objects with which our London streets abound. We do not expect flowers to grow without sunshine, nor trees to bring forth their foliage, neither can the very colours of insects be developed without light. We may well take the hint Nature gives us, and let children have as much light and sunshine as possible from the first thing in the morning to the last thing at night. Children rejoice in light by instinct. Who, that has noticed a child at all, has not seen how its eyes will follow a lamp or a candle about, or how it will lie steadily and blissfully blinking at it? Poets and moralists have had a great deal to say about a child's efforts to grasp at sunbeams, and most of us have smiled at such a sight. Perhaps it would be as well for us if we did not become so very unobservant of sunbeams as we grow older!

Every trained Nurse must keep in remembrance the importance of giving children fresh, pure air to breathe when they are asleep. She must also take care that their little bodies are suitably clothed in some soft woollen material. If the little patient has had any chest trouble, he must be covered back and front with some cotton-wool or gamgee tissue. The Nurse's object must be to leave the child's limbs free and unconstrained, without risk of its

getting chilled. If the little body is warmly covered up, it can be allowed to kick off the bedclothes, or to wriggle from under any coverings which it may find oppressive, in the pretty way in which children make themselves comfortable when sleeping.

Nurses must take care that neither the clothing nor the bedding of a child is too heavy. It makes children miserable if their natural movements are hampered in any way by their clothing, or to feel that there is any weight from which they cannot escape.

A celebrated French Physician, who had charge of the hospital for 'waifs and strays' in Paris, used to say that he was able to diagnose children's diseases from the lines and furrows on their faces. This statement is sufficient to show Nurses how real and important such indications must be, and to convince them how thoroughly worth while it is for them to study the signs that are written so clearly for those who have 'eyes to see.'

The 'expression' on children's faces. Speaking generally, it is useful for Nurses to remember that with pain in the head there is usually contraction of the brows; with pain in the chest the nostrils stand out sharply, and work rapidly; with pain in the abdomen a drawing-in of the upper lip may generally be noticed.

The 'colour' of children. There is a good deal to be learnt, too, from the *colour*. Lividity of the lips and eyelids shows a weak condition of the circulation; a faint purple tint of the eyelids and round the mouth indicates some difficulty in digestion. A general earthy tinge of the complexion is a sign of chronic bowel complaint. An observant Nurse will follow up these indications with great interest, and gather up much useful knowledge as her experience grows.

The 'cries' of children. The *cry* of sick children varies very much, and conveys much information to those skilful in the interpretation of these sounds. In brain diseases there is a sharp, short, sudden cry. If the child is crying from stomach-ache, the cry is more prolonged and wailing; if a child is hungry, thirsty, or suffering from ear-ache, it will cry almost without

ceasing, because the cause is constant, and does not occur in paroxysms. If the child is suffering from inflammation of the chest or windpipe, the cry will naturally be hoarse and whispering. Every one who aspires to become skilful in the nursing of sick children will study the cries, the faces, the expressions, and the colour of every little patient entrusted to her care.

A great deal will depend upon the tact and good management of the Nurse in coaxing children to take both the nourishment and the medicine ordered. Sometimes the little patient is extremely fanciful, and will agree to take it from one person, and firmly decline it from another. This is a very small concession to make to the whims of a sick child. If children have been lovingly trained in habits of obedience, the Nurse's task becomes much easier. But if her difficulties are enhanced by the fact that the child has been habitually spoilt, and is at the moment fretful and unhappy from illness, she would do well to remember that the object in view makes suitable 'bribery and corruption' quite legitimate! I would remind Nurses that illness is not the time or opportunity to take to cure a child of its faults.

I once heard a charming story of Nurse, mother, and every one failing to persuade a little boy, who was dangerously ill, to take a dose of medicine that the Doctor considered urgently necessary. Nothing would induce the child to take it. His breathing was so rapid that they dared not try to force the medicine down. In the midst of their anxiety it happily occurred to the father to promise the child a shilling if he would swallow the medicine. The child's attention was arrested by this tempting offer, and after a moment's reflection he managed, in the midst of his distressed breathing, to whisper to his father, 'Make it two!' The bargain was immediately struck, and the delighted father had the supreme satisfaction of seeing the dose faithfully swallowed by his little son.

In illness the sternest moralist must relax a little, as the occasion demands. A great deal of a Nurse's influence over a sick child will depend upon his confidence in her. It will be an immense help to the little patient when he finds

that he can thoroughly trust his Nurse. Children get so easily worried by Nurses who do not understand them.

A Nurse must try, as far as possible, never to be dull with children. She will take pains about this if she remembers that children measure time very differently to adults. To wait five minutes feels to a child longer than waiting for an hour feels to a grown-up person, and Nurses who are in sympathy with the little ones will act accordingly.

Sometimes one sees a Nurse going up and down a ward with a smile or a word for nearly every child she passes. They watch for it. But if a Nurse goes up and down very busy—as she must be—simply full of what she is doing at the moment, without one glance for the children, they will reflect it, and be dull too. It is impossible to make children look pleased if they do not feel pleased. It is a great reward for a Nurse, for the trouble she is taking, to see how pleased she can make her little patients look, and how eagerly they will watch for her return to the ward if she has been off duty.

When children are fretful, and cry, a Nurse must try her best to go to them immediately. It is always painful to see a child crying *alone*. It may be that there is nothing a Nurse can actually do for it, but we may be sure that the child feels the sympathy of some one taking a little interest in its distress. A skilful Nurse often beguiles a child into forgetting its pain, or its little troubles; and, if only for a few minutes—in the case of a sick child—that few minutes of even partial forgetfulness will have *rested* the child and helped it on again.

Small things are of transcendent importance to children, and their special Nurses must be unwearied in their efforts to enter into the little interests of which the child's 'world' is made up—however insignificant these trifles may appear to grown-up people!

Children have a marvellous capacity for amusing themselves, if they are encouraged to do so. Toys are very consoling if they are forthcoming at the right time, and if the Nurse takes a judicious interest in them. Where toys are produced for children to play with, it will often make a

little stranger supremely happy to have some particular toy given to him *at once* 'for his very own.' It is superfluous for me to enlarge upon the innumerable little ways in which lovers of children can help them to be happy and good.

It has been well said that—

' Women know

The way to rear up children ;
They know a simple, merry, tender knack
Of tying sashes, fitting baby-shoes,
And stringing pretty words that make no sense,
And kissing full sense into empty words ;
Which things are corals to cut *life* upon,
Although such trifles : children learn by such
Love's holy earnest in a pretty play,
And get not over-early solemnized.'

Too many of the children who fill our hospital wards get 'early solemnized' indeed ! They have little chance of even dimly comprehending what love means, when they see no ray of it penetrating their daily surroundings. Children are naturally imitative. They learn to swear as soon as they can speak, just as readily as they would learn to pray if they had been tenderly nurtured. When they are taken from their squalid homes, and these uncared-for little ones come into the hospital to be nursed, they are brought under fresh influences that may have a lasting effect on their future lives. Dozens of these little ones may never have another chance of learning what it is in the Nurse's power to teach them, without any extraordinary expenditure of time and effort on her part.

Nurses know the truth of this, and a very little reflection will teach them its unutterable sadness. Every Nurse who realizes, even in a slight degree, that these neglected little ones enter upon life without ever getting a fair chance for their poor little bodies, or their poor little souls, will surely feel stirred from the very depths of her heart, to do her utmost for and with these little ones, during the short time she has them under her care.

It is one of the most beautiful things on earth to see how readily children respond to love, and if, when the day comes

for them to leave the hospital, they go forth with fresh thoughts in their young minds, the good seed sown cannot fail to bear fruit in due season. The child a Nurse has helped, because she has loved it, will have opportunities of helping others which never could have been within the Nurse's own reach.

Nurses sometimes do less than their best in this direction, because they fail, on the one hand, to recognize all that is expressed in the 'cry of the children,' and because on the other, they underrate their own power to help them individually.

George Eliot encourages us with the beautiful thought that—

'In old days there were angels who came and took men by the hand and led them away from the city of Destruction. We see no white-winged angels now. But yet men *are* led away from threatening destruction; a hand is put into theirs which leads them forth gently towards a calm and bright land, so that they look no more backward; and that hand may be a little child's.

The more love a Nurse has in her heart to give to the children, the more surely they will reward her, in their own fashion, for all that she bestows upon them! I would earnestly plead with all Nurses to be very tender, very patient, very gentle, and very loving in all their dealings with the little ones, not only for the children's sake, but also for their own.

It would be a very old, weary world, if there were no children in it to keep us fresh and hopeful. To quote George Eliot again—

'We should never have loved the earth so well if we had had no childhood in it.'

This remains true, whether our individual experience of childhood has been a happy one or not. In our desire to help the little ones, it would be ungrateful to forget how much they do for us in return. Many tired men and women—certainly many Nurses—some of whom are feeling the

heavy burden of their own personal sorrows, whilst seeking to make the world brighter or easier for others—can bear willing testimony to the way children have unconsciously cheered them in the midst of their struggle.

‘ For what would the world be to us
If the children were no more ?
We should dread the desert behind us
Worse than the dark before.
They are better than all the ballads
That ever were sung or said ;
For *they* are the *living* poems,
And all the rest are dead.’

INDEX

- Abdomen, examination of, 43
- Abdominal binders, 237
 - section, cradle in, 43
 - —, nursing of, 235
 - —, sponges used in, 224
- Absorption of drugs through skin, 173
- Accident cases, management of, 154
- Accuracy, 167, 228
- Acid tests, 186
- Adults, physiological differences between, and children, 316
- Adults, ophthalmia in, 258
- Air, composition of, 190
 - , fresh, 22, 200, 203, 328
 - , prejudice against night, 203
- Airing of patients' linen, 44
- Alcohol prescribed in typhoid fever, 287
- Alkaline tests, 186
- Amadou plaster for bed-sores, 54
- Amputations, 225, 230
- Anæmia, 300
 - , chronic, cause of, 301
- Anaesthetic, cold as an, 91
 - , fasting before administration of, 219
 - , lowering of temperature of body by, 220
 - , sickness caused by, 219, 225
- Anatomy, 4
- Angina pectoris, amyl nitrite in case of, 172
- Antidotes for poisoning, 175
- Anti-toxin for diphtheria, 297
- Aperient before operation, 218
- Apothecaries' fluid measure, 167
- Arm and leg bath, 107
 - , method of undressing in cases of broken, 155
- Arsenic, administration of, 171
 - , poisoning, 177
- Art, nursing an, 3
- Arterial bleeding, 159
- Artificial respiration, 163
 - light, 204
 - ventilation, methods of, 197, 198
- Aseptic dressings to be kept in air-tight boxes, 129
- Asthenia, 205
- Atropine poisoning, 176
 - , use of, 224, 252, 255
- Awakening patients, 59, 61, 68, 72
- Back, care of patient's, 53
- Bandages, 86
 - , Domette, 80, 82
 - , Esmarch, 85
 - , tightness of, 78, 80
 - , capeline, 89
- Bandaging, practising of, 85
 - the eye, 256
- Base, fractured, 161
- Bath, arm and leg, 107
 - before operation, 218

- Bath, children's 325
 —, cleansing, 104
 —, cold, 92
 —, continuous, 106
 —, foot, 107
 —, hip, 106
 —, hot, 106
 —, hot air, 103
 —, ice, 92
 —, medicinal, 107
 —, mustard, 107
 —, nurse's, 70
 —, temperatures, 105
 —, thermometer, 105
 —, Turkish, 102
 Bedclothes, heavy, 42, 64
 — not to be put on floor, 41
 —, shaking of, 39
 Bed coverlets, 41
 — for fractures, 36
 — for supra-pubic cystotomy
 cases, 238, 239
 — in case of continuous trans-
 fusion or infusion, 43, 235, 241
 —, in fever cases, 264
 —, making of, 38
 —, nurses not to sit on, 19
 —, ordinary, 36
 — pans, 49, 50, 51, 70, 80, 234
 —, position of, 38
 —, preparation of, after opera-
 tion, 225
 — rests, 84
 — raisers, 35
 — sores, 41, 51, 54, 237, 239,
 290, 327
 —, water, 36
 —, wrinkles and crumbs in, 39
 Bedstead castors, 35
 — head-pieces to be movable, 35,
 250
 —, high, 34
 — not to be placed near wall,
 34
 — not to have footpieces, 34
 —, size, shape, and kind, 33
 Beef-tea, peptonizing of, 143
 Belladonna poisoning, 176
 Binders, abdominal, 237
 Bladder, washing out of, 148
 Blankets, arranging of, 39, 41, 42
 Bleeding after leeches, 121
 —, arterial, capillary, and ve-
 nous, 159
 —, how to arrest, 159
 Blinds, 38
 Blisters, 122
 Blood corpuscles, red, 300
 — — white, 195, 300
 —, examination of, 214, 300
 — cultures, 302
 — pressure, 303
 Bloxam's cradle, 85, 157
 Boards, fracture, 37
 Boiling of suspected water, 279
 Boracic dressings, 129, 130
 — fomentations, 130
 — lint for footpieces of splint,
 77
 Bottle, importance of shaking the,
 168
 Bottles, hot water, 56, 68, 93, 109,
 225
 Box splints, 326
 Brain, concussion of, 161
 Bran in bags, hot, 109
 — poultice, 110
 Brandy, administration of, 93
 — for operations, 224
 Bread poultices, 116
 Breakfast, nurses', 69, 71
 —, patients', 69
 Breast, excision of, 230
 Bright's disease as a complication
 in scarlet fever, 273
 — —, the blood pressure in,
 303
 Brown paper for mustard plasters,
 118
 Burns, 164
 Calmness, 10
 Camomile, application of hot, 109
 — flower water, 111
 Capeline bandages, 89
 Capillary bleeding, 159
 Carbolic acid poisoning, 178
 — cap, 47
 — disinfectant, 281

- Carbon dioxide or carbonic acid
in air, 190, 191
- Carrying patient, method of, 156
- Castor oil, administration of, 170
- Castors of bedsteads to be strong,
35
- Cataract, 248, 249
- Catheter, employment of, 134, 139,
141, 142, 144, 145, 148, 235, 237
- Cellulose wadding, 130
- Chalk and gum splint, 82
- Changing of poultices, 70, 113
- Character as affecting work, 30
- Charcoal poultices, 55, 116
- Charts, temperature, 134
- Cheerfulness, 10
- Chemical composition of the body,
4
- Chest, examination of, 43
— poultices, 114
- Chicken-pox, 269
- Children, changing of bedgowns
and jackets, 44
—, cleanliness of, 325, 326, 328
—, colour of, 330
—, crying of, 317, 330
—, expression of, 330
—, nursing of, 313
—, physiological difference be-
tween, and adults, 316
—, taking temperature of, 135,
137
—, washing of, 326
- Chloral hydrate poisoning, 176
- Chronic cases, 308
- Circulation, failure of, 205
- Cleaning of tube in tracheotomy
cases, 245
- Cleanliness in serving food, 59
— in tracheotomy cases, 244
— of children, 325, 326, 328
— of medicine bottles, 168
—, personal, 10, 46
- Cleansing bath, 104
— before operation, 218
— of splints, 75, 76, 326
- Cleft palate, 232
- Clinical thermometers, 136
- Clothes, care in removing, in acci-
dent cases, 154
- Clothing during operations, 220
- Coal-tar lotion as substitute for
charcoal, 55, 116
- Cocaine in hæmorrhoid cases, 234
— in ophthalmic cases, 250, 259
— poisoning, 177
- Cod liver oil, administration of,
170
- Coffee enemata, 143
- Cold, action of, 90, 101
— as a remedial agent, 90, 159,
160
— bath, 92
— draughts to be avoided, 200,
201, 202, 248
— packing, 94
— sponging, 93
— wet rags, application of, 95
— compress, 129
- Colic, application of moist heat for,
108
- Colour of children, 330
- Compound fracture, preparations
for treatment of, 157
- Compresses, 70, 129
—, wet, for inducing sleep, 65
- Concussion of brain, 161
- Condensed milk, 322
- Condition of patients, nurses to
observe, 182
- Contagion, definition of, 261
- Continuous bath, 106
- Contraction of parts, cold as pro-
ducing, 91
- Convalescence, 309
- Conversation with patients, 62
- Convulsions, ice in cases of, 100
— in teething, 324
- Cookery, sick-room, 59
- Copper sulphate, application of,
259
- Corrosive sublimate poisoning, 177
- Corpuscles, red, 300
—, white, 195, 300
- Cotton-wool jackets, 115
— serviceable in applying
splints, 76
- Counter irritation, 119
- Courtesy, 16
- Coverings for splints, 77

- Coverlets, bed, 41
 Cradle, Bloxam's, 85, 157
 — for hot air baths, 103
 — in operations, 43, 157, 225, 230
 Croft splint, 83
 Croton oil, administration of, 170
 Crumbs in bed, 39
 Cultures, blood, 302
 Cupping, 119, 120
 Curtains round bedstead, advantage of, 37
 Cyanide dressings, 130
- Day nurses, duties of, 70
 Death, 205
 —, attention due to patient's friends, 211
 —, signs of, 207
 —, treatment of body after, 208
 Delirious patients, taking temperature of, 137
 Delirium tremens, 160
 — —, use of ice bags in cases of, 100
 Dermatol powder for backs, 53
 Diarrhoea, 140, 271
 Diet of children, 317
 Diphtheria, 291
 Disinfection in scarlet fever, 274
 — of linen, 261
 — of splints, 75
 — of sputum, 305
 Doctors, distinction between work of, and nurses, 1, 31
 —, manner of reporting to, 181
 —, relation of, to nurses, 5
 Domette bandages, 80, 82
 Doors, closing of, during ventilation of wards, 202
 Douches, vaginal, 148, 241
 Draughts, avoidance of, 200, 201, 202, 248
 Drawsheets, 40, 327
 —, all accident beds to be provided with, 157
 Dressing of bed-sores, 55
 — of blisters, 124
 — of burns, 164
 Dressings, economy in, 126
 —, preparation of, 124
 —, soiled, disposal of, 126
 —, sterilization of, 130, 224
 —, surgical, 124, 326
 — to be ready for operations, 224, 251
 —, various descriptions of, 129
 Drip-pots, 94
 Drops for eye, 255
 Dropsy as a complication in scarlet fever, 273
 —, hot packing in cases of, 103
 —, hot-water bottles in cases of, 57
 — poultices, 115
 Drowning, 162
 Drugs, absorption of, through skin, 173
 —, specific action of, 173
 Drunkenness, 161
 Dry cupping, 120
 — heat, effects of, 102, 109
 Dusters, 265
- Ear complications in scarlet fever, 273
 Economy in using surgical dressings, 126
 Effects of drugs, 173
 Emetics, administration of, 171
 — in poison cases, 176
 Enema before operation, 218
 Enemata, administration of, 134, 138, 142, 232, 237
 — in abdominal section, 236
 Epistaxis, 160
 Eruption in typhoid fever, 284
 Erysipelas, 165
 Esmarch bandage, 85
 Etiquette, hospital, 16
 Evaporation, 101, 195
 Excision of breast, 230
 — of tongue, 231
 Expression on children's faces, 330
 Extension, strapping for, 79
 Eye drops, 255
 —, lime in, 259
 — mortar in, 259

- Eye, washing out, 255
 —, bandaging the, 256
 —, everting the lids, 256
 —, painting the lids, 256
 —, foreign body in, 259

 Fainting, 162, 172, 195
 Fasting before administration of
 anæsthetic, 219
 Feeding at night, 59
 — bottles, 320
 —, nasal, 144, 232, 296
 — of children, 317
 — of diphtheria patients, 295
 — ophthalmic patients after
 operation, 251
 — of typhoid patients, 282
 — patients, 58
 Feet, cold, as cause of sleeplessness,
 64
 —, method of resting, 22
 — exercises, 22
 —, washing of, 45
 Femur, fractured, treatment of,
 154, 158
 Fever, cold water employed to re-
 duce, 92
 —, nursing of, 260, 279
 Fingers, care of, 25, 125
 Fires, making up of, 204
 Flatulence in abdominal section,
 236
 — in children, 317
 Flowers, 70
 Fomentations, 55, 70, 110, 114,
 119, 130, 254
 Food, administration of, 61
 — after operation, 226, 250
 — before operation, 219
 —, cleanliness in serving, 59
 — for infants, 318
 — for patients, 58
 — —, when asleep, 59, 61
 — given to induce sleep, 65, 68
 — in abdominal section, 236
 —, quantity of, 62
 —, serving of, 70
 Foot-bath, 107
 Foot-pieces to hospital beds un-
 desirable, 34

 Foot-warmers, 38
 Foreign body in eye, 259
 Forethought, 10
 Fowler position, 35
 Fracture beds, 36
 — boards, 37
 Fractured base, 161
 — femur, treatment of, 154, 158
 — ribs, 79, 158
 Fresh air, 22, 200
 Frost-bite, prevention of, when ice-
 bags are used, 97

 Gamgee tissue jackets, 115
 Gases, diffusion of, 197
 Gauzes, application of, 130
 Glaucoma, 248, 253
 Gluten bath, 107
 Glycerine enemata, 142
 — tampons, 150
 Goethe, maxim of, 1
 Gossip, 26
 Grafting skin, 164
 Greasy dressings to be kept in
 enamelled tin boxes, 129
 Grumbling, 26, 28
 Gum and chalk splint, 82
 Gutta-percha ice bags, 97

 Habits, good nursing, to be culti-
 vated, 11
 Hæmatemesis, 159
 Hæmoptysis, 159
 Hæmorrhage, 158
 — after operation, 228
 — from stump, 229
 Hæmorrhoids, 233
 Hair brushing as a sleep inducer,
 65
 — near wounds, cutting of, 129
 Hands, care and cleanliness of, 25,
 26, 125, 214, 223, 249
 Hare-lip strapping, 80, 233
 Headache, treatment of, 108
 — cause of, 193
 Head-pieces to bedsteads to be
 movable, 35, 250
 Heads, cleaning of dirty, 47

- Health of nurses, 22
 ——— in tracheotomy cases, 248
 ——— in infectious cases, 295
 Heat, action of, 90, 101, 108, 109
 ——— as a remedial agent, 90, 102, 109, 254
 ——— application of, in ophthalmic cases, 254
 ———, cold as an abstractor of, 91
 ———, dry and moist, effects of, 102, 108, 109, 254
 ———, processes by which lost from body, 194
 Hernia, 238
 Higginson's syringe, 139, 150
 Hip bath, 106
 ——— disease, method of carrying patients, 156
 Hop bags, 109
 Hospital, advice to nurses on entering, 9
 ——— manners, 15, 181
 ———, visitors to, 16
 Hot air baths, 103
 ——— bath, 106
 ——— bathing, 254
 ——— bricks, 109
 ——— pack, 103
 ——— water bottles, 56, 68, 93, 109, 225
 Hours for administering medicine, 171
 Humanized milk, 321
 Hypodermic injections, 104, 134, 150, 171, 175
 ——— syringe, method of cleaning, 153
 Hypostatic pneumonia, 283
 Ice, how to keep, 99
 ——— bags, 70, 96, 100
 ——— bath, 92
 ———, breaking of, 98
 ——— cold sponging, 94
 ——— cradling, 286
 ——— for operations, 224
 ——— taken internally, 99
 ———, use of, 96
 Illness of nurses, 24
 Inclinator, Skeffington, 35
 Infants, feeding of, 317
 ———, weight of, 324
 Infection, definition, 261
 Infectious cases, care in nursing, 276, 295
 ——— diseases, 260
 Inflammation, application of moist heat, 108, 109
 Inhalations, 171
 Injections, hypodermic, 104, 134, 150, 171, 175
 ———, pilocarpine, 104
 Instruments, sterilization of, 131, 223, 224, 250
 ——— to be kept out of sight of patients, 224
 Iodine poisoning, 177
 ———, use of, for preparing the skin for operation, 218, 227, 297
 Iodoform dressings, 130
 Iridectomy, 253
 Iritis, 253
 Iron, administration of, 171
 Irrigator, use of, 127, 149
 Jacket poultices, 89
 Jaconet as a waterproof covering for splints, 77
 Jaw, bandage for, 89
 Kidneys, inflammation of, 273
 Laudanum in poultices, 115
 ——— in starch enemata, 140
 "Laying out" the dead, 208
 Leeches, 119, 120, 254
 Leg and arm bath, 107
 Leg, broken, general treatment of, 33
 ———, ulcerated, strapping for, 81
 Leighton, Lord, quotation from, 30
 Leiter's tubes, 91, 96, 98
 Lights and lighting, 38, 67, 68, 204
 Lime in eye, 259
 Linen, airing of, 44
 ———, disinfection of, 261
 Linseed meal poultice, 55, 112
 Lint between patient and ice bags, 97, 98

- Lithotrixy, 239
 Lobster-tailed tube for tracheo-
 tomy cases, 246
 Lotions, 70, 129
 Loyalty, 14
 Lungs, bleeding from, 159
 Lysol as a disinfectant, 280, 299,
 305
 Mackintoshes, 40
 — in accident cases, 157
 — in hæmorrhoid cases, 234
 — in operations, 220
 Mallow water, 111
 Manners, hospital, 15, 181
 — to patients, 19
 Many-tailed bandages, 88
 Marks, removal of strapping, 81, 128
 Materials for bandaging, 86
 Meals, regular, necessity for, 23
 Measles, 271
 Measure, apothecaries' fluid, 167
 — glasses, 167
 Medical cases, 305
 Medicinal bath, 107
 Medicines, administration of, 70,
 167
 Memory, 10
 Mental failure in typhoid fever, 289
 — — — ophthalmic cases
 after operation, 253
 — rest, 72
 Method, 10
 Milk food for children, 318
 —, peptonizing of, 143
 Moist heat, effects of, 102, 108, 110
 Moisture a cause of bed-sores, 53
 Morphine in operations, 224
 — poisoning, 175
 Mortar in eye, 259
 Motions, observation of, 185
 Mountain sickness, cause of, 191
 Mouth, attention to patient's, 46,
 283
 Mouth washes, 231, 237
 Mumps, 269
 Mustard bath, 107
 — plaster, 117
 — — as counter irritant, 119
 — poultice, 116
 Nails, attention to, 26, 70, 125, 223
 Napkins, washing of, 327
 Narcotics, 66, 68
 Nasal douches, 160
 Nasal feeding, 144, 232, 296
 Natural ventilation, meaning of,
 197
 Nausea, 62
 Neatness, 10
 Needles, threading of operating, 224
 Newcomers at hospitals, advice to,
 9
 Night feeding, 59
 — air, prejudice against, 203
 Nightingale, Miss F., quotation
 from, 41
 Night nurses, 67, 69, 222
 — — reports, 71
 Nitrate of silver, 256, 257
 Nitric acid poisoning, 178
 Nitrogen in the air, 191
 Noises, irritating effect on patients
 of, 65, 73
 Nose, bleeding from, 160
 Nourishment in fever cases, 263
 Nurses, distinction between work
 of doctors and, 1, 31
 —, importance of work of, 6
 —, personal qualities required
 for, 2, 7
 — relation of, to doctor, 5
 Nursing an art, and not to be
 regarded as a profession, 3
 Nutrient enemata, 142, 232, 237
 Obedience, 10, 13
 Observation, 181
 Obstetric cases, bed for, 43
 Oiling of bed-pans, 50
 Oils, administration of, 170
 Ointment for the eye, 255
 —, Stavesacre's, 48
 Olive oil used in linseed-meal
 poultice, 112
 — — with blisters, 123
 Operating room, temperature of,
 223
 — table, 226
 Operations, 72, 218, 250
 — in private houses, 226

- Opium poisoning, 175
 Ophthalmic cases, 248
 ———— operating table for, 250
 ———— instruments for, 250
 ———— treatment after operation, 251
 ———— dressing of, 251
 ———— hobbling of the hands, 251
 Ophthalmia neonatorum, 257
 ———— in adults, 258
 Ovariectomy cases, 235
 Oxalic acid poisoning, 178
 Oxygen in air, 190

 Packing, cold, 94
 ———, hot, 103
 Padding of splints, 76
 Pain after amputation, 230
 ——— after application of splints, 78
 Painful swallowing, method of relieving, 296
 Painting of throat, 294
 Palate, cleft, 232
 Paralysis in diphtheria, 297
 Paralyzed cases, hot-water bottles for, 57
 ————, poultices for, 115
 Patients, nurse's manners to, 19
 ——— uncovering of, 42
 Peptonized beef-tea, 143
 ——— milk, 143, 322
 Perinæum, ruptured, 240
 Peritonitis, 242
 Personal qualities for nurse's work, importance of, 2, 7
 Peyer's patches, 281
 Phosphorous poisoning, 178
 Physiological differences between children and adults, 316
 Physiology, study of, 4
 Piles, 233
 Pillow, arranging of, 40, 43
 ——— in abdominal section, 235
 ——— shaking of, 40
 ———, water, 36, 43, 55, 251, 326
 Pills, administration of, 171
 Pilocarpine injection, 104
 Plaster of Paris splint, 80, 82, 83
 ——— ——— ——— jackets, 83

 Plasters, mustard, 117
 Pleurisy, 271
 Plugging, white gauze for, 130
 Pneumonia as a complication in diseases, etc., 165, 271, 283, 296
 Pocket-handkerchiefs, disinfection of, 306
 Poisons, 32, 174
 Poppy head decoction, 111, 115, 172
 Position of bed, 38
 ——— of typhoid patients, 283
 Poultice as counter irritant, 119
 ———, bran, 110
 ———, bread, 116
 ———, charcoal, 116
 ———, changing of, 70, 113,
 ———, effect of, 109
 ———, jacket, 89, 114
 ———, laudanum, 115
 ———, linseed-meal, 112
 ———, mustard, 116
 ———, starch, 48
 Powders, administration of, 171
 Precipitate white poisoning, 178
 Preparation for operation, 72, 218, 249
 Pressure as remedy for hæmorrhage, 159
 ——— of blood, 303
 ———, how to relieve, 54
 Profession, nursing not to be regarded as a, 3
 Punctuality, 10, 11, 61, 67, 167

 Quantity of food for patients, 62

 Rags, cold wet, 95, 96
 Rash developed after burns, 165
 Rashes, anti-toxin, 298
 Receivers, empty, for operation, 224
 Recreation, 23
 Rectum, washing out of, 142
 Regulations, necessity for conforming to hospital, 9

- Reporting to doctors, 17, 62, 181, 287
- Reports of night nurses, 71
- Respiration, failure of, 206
- Rest, mental, 72
- treatment, 33, 58, 72, 281
- Restlessness, 307
- Rests, bed, 84
- Rheumatism as a complication in scarlet fever, 273
- , cold packing in, 94
- Rib roller bandages, 89
- Ribs, fractured, position in bed, 157
- —, strapping for, 79
- Rigor mortis, 207
- Room, for operations on eye cases, 249
- Ruptured perinæum, 240
- Saline injections, 236
- Salt, hot, application of, 109
- Salvarsan, treatment for syphilis, 214
- Sand-bags, 78
- Sand, hot, application of, 109
- Sawdust for operations, 225
- Scabs, removal of, 129
- Scalds, 164
- Scalp, lacerated, 161
- Scarlet coverlets, 42
- fever, 272
- — following burns, 165
- Scott's dressing, 129
- Screens, 64
- Sea-salt bath, 92
- Sedative, moist heat as a, 102
- Senses, use of, 183
- Septic poison complications with burns, 165
- Shaking of bedclothes, 39
- "Shaking the bottle," 168
- Shampoo powder, 47
- Sheets, changing of, 39
- Shoulder, undressing in cases of dislocated, 155
- Sickness during operations, 219, 225
- Sick-room cookery for nurses, 59
- Siegle's spray, 172
- Silicate of potash splints, 82
- Silver nitrate, 256
- Sister, nurse's manners to, 17
- Skeffington inclinators, 35
- Skin, absorption of drugs through, 173
- , sense organ, 196
- , broken, in poulticing, 117
- , grafting, 164
- Sleep for nurses, 23
- , importance of, 63, 66
- , methods of inducing, 64
- Slings, 84
- Slipper bed-pans, 50
- Small-pox, 266
- Soaping of nails, 26, 125
- Soiled dressings, disposal of, 126
- Soothing syrups, 324
- Soutar's Thermos continuous infusion apparatus, 95, 229
- Spasms relieved by moist heat, 108
- Spatula, use of, 112, 113, 129
- Specimens, saving of, 50, 70, 185, 186
- Sphygmomanometer, use of, 303
- Spica bandages, 89
- Spinal failure in typhoid fever, 290
- ice-bags, 100
- Spittoon, disinfection of, 305
- Splints, 75, 326
- Sponges never to be used for washing septic wounds, 127
- , use of, 224, 225
- Sponging, 93, 94, 264, 285, 311
- Spongio-piline, 110, 112
- Sprains relieved by moist heat, 108
- Spraying, 172, 294
- Spreading disease, causes of, 261
- Sputum, disinfection of, 305
- , disposal of, 306
- Stains on wounds, removal of, 128
- Stand, assisting patients to, 42
- Starch enemata, 140
- poultice, 48
- Stavesacre's ointment, 48
- Steam-kettle for tracheotomy cases, 243
- Sterilization of dressings, 130, 224

- Sterilization of instruments, 131,
 223, 224
 — of padding wool for splints,
 77
 Stimulant, cold as a, 91
 Stirrups, 237
 Stomach, bleeding from, 159
 Stone, 187
 Stools in typhoid fever, disposal
 of, 280
 Strangers in wards, courtesy to,
 16
 Strapping, 78
 Stricture, 239
 Strychnine for operations, 224
 Styptics, 91, 159, 160
 Sucking of ice by patients, 99
 Sulphate of copper, 259
 Sulphur bath, 107
 — for disinfecting rooms, 275
 Sulphurous acid gas for disinfect-
 ing rooms, 275
 Sunlight for children, 328
 Suppositories, 173
 Supra-pubic cystotomy, 238
 Surgical dressings. *See* DRESS-
 INGS
 Sutton, Dr., quotations from, 58,
 289, 311, 317
 Sutures, preparation of, 132, 224
 Swabbing of throat, 294
 Sweeping of wards, 70
 Swelling after application of
 splints, 78
 Sympathy, 10, 21, 72, 73, 211, 220,
 289, 310
 Syncope, 205, 296
 Syphilis, 213
 — treatment of, 214
 — and public opinion, 215
 — cause of, 215
 Syringe for washing wounds, 127
 —, Higginson's, 139, 150
 —, hypodermic, 150

 Table for ophthalmic operations,
 250
 Tampons glycerine, 150
 Tar bath, 107

 T-bandages, 88
 Technical knowledge of work of
 secondary importance, 2
 Teeth, attention to, 26, 46, 283,
 299
 —, development of, 324
 —, false, to be removed before
 operation, 220
 Teething, 324
 — powders, 324
 Temperature charts, 134, 237
 — in typhoid fever, 284, 286
 — of baths, 105
 — of body, 101, 134, 194
 — of enemata, 140
 — of infants' food, 318
 — of operating room, 223
 — of wards, 202
 —, taking of, 70, 134, 135
 Tent for tracheotomy cases, 243
 Tepid sponging, 94
 Testing of urine, 185
 Theatre, temperature of, 223
 Thermometer, cleansing and care
 of, 136
 —, use of bath, 105
 —, habitual use of ward, 203
 —, use of, in taking tempe-
 ratures, 136
 —, wet and dry bulb, 193, 199
 —, ward, 198
 Thermos, Soutar's, continuous in-
 fusion apparatus, 95, 229
 "Thinking for" patients, 73
 Thirst, 62
 Throat complications in scarlet
 fever, 273
 —, painting, spraying, or swab-
 bing, 294
 Tightness of strapping, 78, 80
 Tissue paper for mustard plaster,
 118
 Toc-caps, 77
 Toe exercises, 22
 Tongue, excision of, 231
 Tonic, cold as a, 91
 Toothache, plaster for, 118
 Tourniquet, application of, 158
 Toys for children, 332
 Tracheotomy, 243, 293

- Tracheotomy cases, care of nurses' health in, 248
 Training, importance of, 2
 Transfusion bed, 43
 Treatment, methods of, 31
 Truthfulness insisted on, 10, 13
 Tube for administering medicine, 169
 Tuberculosis, disinfection of sputum in, 305
 Tube, removal of, in tracheotomy cases, 245, 293
 Turkish bath, 102
 Turpentine as addition to counter irritants, 119
 — for cleansing splints, 76
 — stoup, 111
 Twill, the use of, for abdominal binders, 237
 Typhoid fever, treatment in, 32, 93, 279
 — rules for London Hospital nurses, 288
 Typhus fever, 265
- Ulcerated legs, strapping for, 81
 Uncovering of patients, 42
 Undressing of accident cases, 154
 Unna's stocking, 81
 Unselfishness, 10
 Uræmia, hot packing in cases of, 103
 Urine bottles, 49
 —, incontinence of, 187
 —, normal quantity, 186
 —, retention of, 187
 —, specific gravity of, 186
 —, suppression of, 187
 —, testing of, 185
 Urinometer, 186
 Uterine hæmorrhage, 159
 — operations, 240
- Vaccination, 266
 Vagina, syringing of, 134
 Vaginal hysterectomy, 224, 241
 — douches, 148
 Varicose veins, bleeding of, 159
 Variola, 266
- Venous bleeding, 159
 Ventilation, 49, 189, 197, 200
 Visitors to hospitals, 16
 Vomiting, 219, 225, 306, 321
 —, a symptom to be reported, 185
 — in abdominal section, 237
- Walk, assisting patients to, 42
 Wards, sweeping of, 70
 —, temperature of, 202
 Warmth a necessity for children, 328
 Washing furniture, 70
 — out of bladder, 148
 — out of rectum, 142
 — patients, 45, 69, 70, 156, 264
 — sick and injured children, 326
 — septic wounds, 127
 Wassermann reaction, 214
 Wastefulness, 126
 Water beds, 36
 —, boiling of suspected, 279
 — for fever patients, 263
 —, hot and cold, for operations, 224
 — pillows, 36, 43, 55, 251, 326
 Waterproof covering for splints, 77
 Water vapour in air, 192, 195
 Weaning, 322
 Weight of infants at birth, 324
 Wet cupping, 120
 — packing, 285
 — rags, application of cold, 95
 Whispering in sick-room, 66
 White precipitate poisoning, 178
 Whooping-cough, 269
 Windows, opening and closing of, 200, 202
 Winds as ventilative agents, 197
 Wood-wool pads, 130, 239
 Wounds, dressing and washing of septic, 127
 Wrapping up of patients, 38
 Wrinkles in bed, 39
- Zinc dressings, 55, 129
 — powder for bed-sores, 54

PRINTED BY
WILLIAM CLOWES AND SONS, LIMITED,
LONDON AND BECCLES.

its

a

1.75m

Date Due

[illegible]

F287.43 L96

